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ABSTRACT

This proceedings focuses on the best practices and most effective strategies for meeting the needs of postsecondary students who are deaf and hard of hearing. Presentations address professional development, access to programs and services, teaching methods, using technology, student preparation for college, program development, working with students from diverse backgrounds, and personal development. Some of the 47 papers include: (1) "Navigating Our Institutions" (Sue Kroeger); (2) "Words upon a Window Pane: Opening Doors for the Deaf College Students" (Harry Lange and Bonnie Meath-Lang); (3) "Office of Special Education and Rehabilitative Services, U.S. Department of Education: Funded Programs and Projects, Past, Present and Future" (Ramon Rodriguez and others); (4) "PEPNet Then, Today (Now) and Our Hope for the Future" (Ramon Rodriguez and others); (5) "Equal Access for Deaf and Hard of Hearing Students--The Evolving Nature of the Dialogue" (Jo Anne Simon); (6) "Wearing Two Hats: Things Educational Interpreters Need To Know When They Tutor" (Don Hastings and Kim Brecklein); (7) "Innovations in Postsecondary Education and Training: The Case for Community-Based Rehabilitation Centers" (Steven Boone and Douglas Watson); (8) "Effect of Postsecondary Education on Reducing SSI and SSDI Payments to Deaf and Hard of Hearing College Graduates" (Gerald Walter and Jack Clarcq); (9) "Job Placement Services Enhancement Model" (Catherine Burland); (10) "Demystifying Assistive Listening Devices: The Devil is in the Detail" (Cheryl Davis and Martha Smith); (11) "Skill Building Innovations To Help Today's Students Become Tomorrow's Employees" (Steven Boone and Heidi Lefebure); (12) "Creating WIN/WIN Situations: Innovative Management of Interpreter Services at a Mid-Sized University" (Nancy McFarlin); (13) "Designing a Program in a Postsecondary Mainstream Institution To Meet the Needs of Multicultural

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Students Who Are Deaf or Hard of Hearing" (Catherine Burland and others); and (14) "Avenues to Literacy: Our Stories, Our Visions" (Barbara Boyd and others). Papers include references. (CR)

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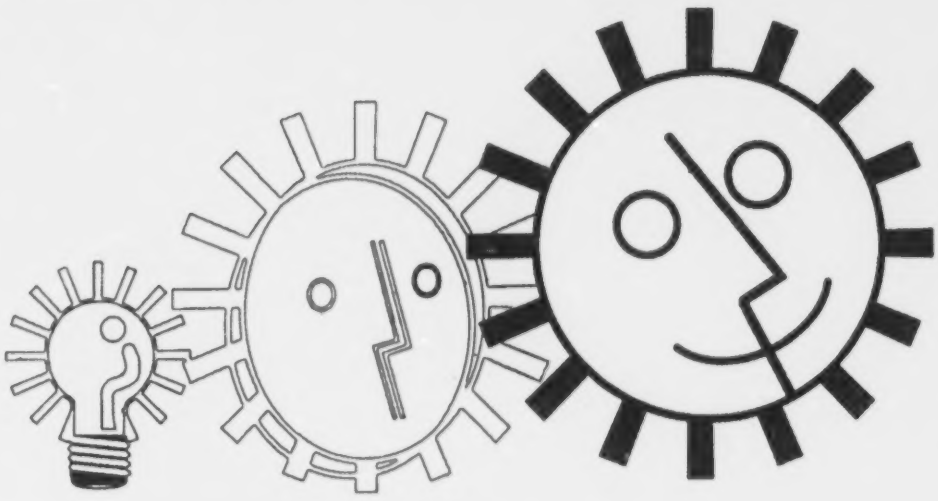

Conference Proceedings

PEPNet 2000

Innovation in Education

April 5-8, 2000

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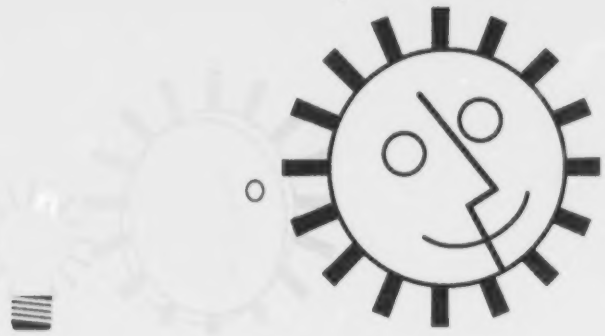

Conference Proceedings

PEPNet 2000
Innovation in Education

April 5-8, 2000
Denver, Colorado

Kay B. Jursik
Editor

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Foreword and Acknowledgments

Marcia Kolvitz
Conference Planning Committee Chairperson
Associate Director
Postsecondary Education Consortium

Educators have seen significant changes during recent years regarding the provision of services to students who are deaf and hard or hearing. Disability support service offices have been affected by changes within the student population, within the institution itself, within the state system, and within the federal government. Recent legislation such as IDEA, the ADA, and the reauthorization of the Rehabilitation Act have further impressed the need to develop good working relationships between and among groups of service providers. *PEPNet 2000: Innovation in Education* provided a unique opportunity for professionals to interact with colleagues to learn more about best practices and effective strategies for meeting the needs of students at the postsecondary level who are deaf and hard of hearing. The conference offered participants the opportunity to identify and implement theories and practices of managing and delivering effective support services to students and clients.

The Postsecondary Education Program Network (PEPNet) developed this biennial conference as an activity to bring professionals together from across the country who are interested in enhancing the quality of postsecondary educational opportunities for students who are deaf and hard of hearing. The conference offered sessions that were of interest to disability support services staff, administrators, counselors, interpreters, tutors, and faculty members from developmental studies as well as college-level courses. Interested secondary-level faculty and staff and adult service providers from rehabilitation agencies and centers for independent living were also encouraged to participate. Students in related professional areas such as rehabilitation counseling, interpreting, deaf education, student personnel services, social work, counseling, and psychology were also welcomed at the conference. The conference featured sessions that offered practical, replicable strategies for providing services to students who are deaf or hard of hearing and attending postsecondary educational programs. This publication offers the reader a sample of the information that was exchanged during the conference.

Building on the strong response from PEPNet '98, this was the second national conference that focused on postsecondary education and students who are deaf and hard of hearing sponsored by the Postsecondary Education Programs Network (PEPNet). Once again, the response to the conference was phenomenal. More than 450 participants came from across the United States as well as Canada and Japan to learn new information, share their experiences with their colleagues, and establish linkages with other service providers. This conference also served as a link between traditional postsecondary programs for students who are deaf and hard of hearing and the numerous colleges and universities across the country who strive to provide quality services, even though they might not offer a program specifically designed for deaf and hard of hearing students. Including service providers from vocational rehabilitation and related community agencies further enabled the development of networks and partnerships so that the needs of students could be better addressed.

As a result of this conference, we may feel more prepared as we look toward the future and deal with the changes as they occur. Surely one of the effects of the conference has been to more firmly establish collaborative efforts between professionals sharing a common goal: the most effective educational programs for students who are deaf and hard of hearing. Instead of operating in isolation, we can create opportunities to share knowledge and experiences to do so.

This conference would not have been possible without the involvement of many individuals and the support of their sponsoring institu-

tions. The confidence and support shown by the directors of the four PEPNet centers is greatly appreciated. All of the members of the conference planning committee worked hard during the past year: Dave Buchkoski, Terri Goldstein, Pat Billies, Debra Wilcox Hsu, Kay Jursik, Allisun Kale, and Gary Sanderson. So much of the work behind the scenes would not have been successful without the hard work of the staff members Sherlea Dony, Pam Francis, Charles Johnstone, Mary Lamb, Michelle Swaney, Patricia Tate, Charley Tiggs, Heather Webb, Julie Danielson, and Paula Zack. Numerous volunteers from each of the four PEPNet centers, state sites, hubs, affiliate programs, and "friends of PEPNet" offered their services, making this truly a collaborative effort. Ongoing support from the U. S. Department of Education, Office of Special Education and Rehabilitative Services enabled us to continue outreach and technical assistance efforts and reach an even larger audience than in the past. Of course, the interest and enthusiasm of all of the presenters and participants made this conference a very meaningful event. We appreciate the time and effort extended by many of the presenters to also submit an article for this volume of conference proceedings. To everyone involved, thank you very much.

PEPNet consists of the four Regional Postsecondary Education Centers for Individuals who are Deaf or Hard of Hearing: Midwest Center for Postsecondary Outreach, Northeast Technical Assistance Center, Postsecondary Education Consortium, and Western Region Outreach Center and Consortia. The mission of the Network is to promote opportunities to coordinate and collaborate in creating effective technical assistance to postsecondary educational institutions providing access and accommodation to individuals who are deaf or hard of hearing. The members of PEPNet promote quality educational activities and outreach services through nationwide collaboration and information exchange and serve as a clearinghouse for resources and referrals. The four centers are funded through an agreement with the U.S. Department of Education. This publication was developed under a grant from the U.S. Department of Education, Office of Special Education and Rehabilitative Services (OSERS) and produced through a cooperative agreement between The University of Tennessee and OSERS. The contents herein do not necessarily represent the Department of Education's policies nor are endorsed by the Federal Government.

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Section I
Plenary Sessions

Navigating Our Institutions[1]

Sue Kroeger
Disability Resource Center
University of Arizona
Tucson, Arizona

Abstract

The disability field is changing and so are the institutions where we work. From faculty governance to curriculum revision, to strategic planning, to information systems, and to facilities design and construction, campus components and disability are constantly intersecting. How do we navigate ourselves and the disability agenda to ensure access? How do we infuse disability services into the total operation of our institutions? How do we promote an appreciation of disability identity, experience, and community? Sue Kroeger will address the importance of disability service providers learning how to dipsy-doodle in ways that can empower themselves, disabled people, and institutions to create more inclusive cultures and universally designed environments.

Raymond Olson:

I'd like to speak on behalf of all of the PEPNet directors in thanking you for taking part in this conference and making it such a huge success. As the conference comes to a close, I have the very great honor to introduce a lady that I have a lot of respect for. I count her as a mentor, and I think a lot of you could do the same.

When Dr. Sue Kroeger left Minnesota recently, it was our loss and somebody else's gain. She is currently the director of the Disability Resource Center at the University of Arizona. However, from 1985 through 1999, she was the director of Disability Services at University of Minnesota. She supervises and, I believe, mentors 40 employees that are either full-time or part-time at the University of Arizona.

She received her Master's degree from the University of Arizona and completed her doctorate at the University of Northern Colorado. She has worked in public and private rehabilitation in addition to her numerous administrative duties. Dr. Kroeger has published articles on disability and higher education and was the coeditor of a book entitled, "Responding to Disability Issues in Student Affairs," published in 1993. She has been the Treasurer of the Association of Higher Education Disability (AHEAD) and is currently the President. She holds adjunct faculty status in the Department of Special Education and Rehabilitation at the University of Arizona. She has been the principal investigator of numerous federal grants and is a national and international consultant.

Dr. Kroeger will talk about how important it is for disability service providers to learn how to "dipsy-doodle" in the ways that empower themselves, disabled people, and institutions, and how to create more inclusive cultures and universally designed environments. I think the word "dipsy-doodle" is one that a lot of you can probably identify with.

Sue Kroeger:

Thank you, Ray. It's really great to be here. I wish that I could have been here for the whole conference. Since I arrived this morning, I've talked to a number of you, and all I have heard is what a wonderful conference this has been. I hope you are proud of it, because that is a major, major accomplishment. *(applause)*

Many of you may know Anita Stockbauer who will help me with my overheads. We were talking at lunch about the conference and decided that we will both take back many wonderful ideas and possibilities to pass on to the AHEAD folks. We'd like to see if AHEAD can make some significant strides forward in providing better access to its conference and services. Thank you for being

[1] This is an edited transcript of the plenary presentation.

a model, not only for all of our programs and services but also for AHEAD. We will look to you for guidance and support. I also want to add that PEPNet and AHEAD really are developing, I think, a wonderful partnership and relationship. I think it's strong and getting stronger, and I think it really has a bright future. So I hope that's as exciting for you as it is for me.

Last night, when I was packing to come here today, I was talking with my two daughters. One is 11 years old, and the other is 4 years old. Obviously, there is a big difference between an 11-year-old and a 4-year-old. While I was packing my suitcase, they were asking me where I was going, what I was doing, why I had to go, and why I couldn't call in sick. *(laughter.)*

I thought, "Well, they are both paying attention to me. Maybe I'll tell them exactly what I'm going to do." So I just started to explain about this trip. I might have only said one or two sentences about representing the association and a little bit more about what I was going to talk about. Just as I got to the end of the second sentence, the phone rang and my 11-year-old screamed, "I'll get it!" She looked back at me and said, "Cool, Mom. I think they'll love it," and she left the room. So I turned to my 4-year-old, thinking that she probably wasn't more interested in what I had to say either. She turned, looked at me and said, "Well, if you were telling that story at my school, it would have to be longer and have pictures." *(laughter.)*

So, you're going to get a little more than two sentences, and you are going to get some pictures. So bear with me.

I'm curious how many of you in the room were at PEPNet in Orlando. *(showing of hands)* Quite a few of you? Were any of you at that plenary panel where I was up on stage and the smoke started coming down? *(showing of hands)*

Well, you know, I didn't get very far in that little talk, which is probably why they were nice enough to invite me back. But when Debra Wilcox Hsu called and said she wanted me to do something more with that dipsy-doodling concept, I thought, "Well, I don't know; that dipsy-doodling thing might be saturated." I couldn't think what more to do with it. Then I really began to think about it and realized that how I talked about dipsy-doodling a couple years ago was grounded in experiences that I was having at the University of Minnesota. As many of you know, I had been at the University of Minnesota a long time, so I had established relationships. The staff and I literally grew up together. I think when I went in 1985, there were only a few of us. When I left in 1999, there were more than 45 people in the department. We all sort of evolved and developed our rationale around dipsy-doodling together.

Since I now live in the wonderful State of Arizona and work at the University of Arizona, I'm working with a staff that has a very long, rich history but not with me. So I think that has been an interesting challenge for me to think about dipsy-doodling in a place where I don't have the relationships or the long history with the staff. In thinking about dipsy-doodling, I've come to appreciate that you really need to plan for it. I'm not sure that I fully appreciated that prior to moving this past summer.

As many of you know and feel on a daily basis, the disability field is changing, and so are the institutions where we work—from faculty governance to curriculum revision, to strategic planning to information systems, and to facilities design and construction. All of those components in disability access are constantly intersecting.

So how do we navigate ourselves and our disability agenda to insure access? How do we infuse disability access into the total operation of our institution? How do we promote an appreciation of disability identity, experience, and community? How do we not only be let in the college or university door but also into the rooms of power and decision-making with the understanding that, once inside, we're probably going to want to rearrange the furniture, remove a few walls, build ramps, use sign language, and generally move in as co-owners, rather than short-term tenants that some are hoping we are? It is so critical that we as disability service providers and administrators learn the political dances, which I like to refer to as dipsy-doodling, so as to empower ourselves, disabled people, and our institutions to create those more inclusive cultures and universally designed environments.

I want you to listen to this wonderful description of one of the world's most passionate dances, the Tango, and think of it as an analogy to dipsy-doodling on the higher education dance floor. Imagine the disability services director and the college president facing each other, assuming the position, and breathing in anticipation. The powerful issue at hand swells for them to take in.

One partner initiates movement. The other feels the direction and the timing. They are now mirror image figures. One has the other's agreement to be led; of course, that would be the president, and therein lies the balance. Without agreement and balance, there is no Tango. How hard can it be for one of them to step, then walk back three steps, cross in front, step back, and close? Eight beats in all; its so simple, yet excitement grows. It is the prelude to exquisite communication. The passionate issue unfolds. You don't have to know the person or even want to know them. It seems different with each partner. You learn about yourself through the partnership. The Tango has begun. It takes your breath away. So breathe and relax. You want to know about posture and how to move your body, not just how to do the steps. You want to be elegant and poised, comfortable with who you are. The dancers seem to have no expression except concentration on their faces. The emotions are brewing within. Hearts are beating. This is the ultimate in dipsy-doodling.

Of course, there are many other types of dipsy-doodling that take place on our campuses that may not appear on the surface as smooth or choreographed as the Tango, like the Charleston or the Jitterbug. But there is a need for us to have a wide range of dipsy-doodle steps in our back pocket when we begin to advocate. All of the steps are designed to draw on the power of others vested with institutional power, such as the president, the provost, the deans, and the faculty. We dance to win influence with those in power and then retain that influence. These are critical activities in this work, whether you are administering a unit or providing direct services. Dipsy-doodling can help you to assess your campus culture, navigate the spaces of power, build alliances, and create universally designed environments.

The first slide shows a John Callahan cartoon. In this cartoon, there is a bunch of people from quite diverse groups standing around saying, "Hey, let's not take this diversity thing too far." In the middle of the group is a guy with a GOP sign on his chest. You know, I can do this now that I'm from Arizona where the GOP has a little more clout there than in Minnesota. But to do dipsy-doodling, it's really important to plan for it.

I don't know if you all feel this on your campuses, but when we start getting into diversity work, I just find that it's so easy for people's eyes to glaze over. You know, one group after another comes in and pretty soon people think, "Okay, who's here this week wanting my time and attention?" I think a big benefit of planning your dipsy-doodling is that it really pushes you to articulate a clear mission and vision, which in turn increases your external support. I also think that when administrators understand the intent of your dipsy-doodling, they feel more confident in your future actions. So clarifying your values, your rationale, your activities, and your desired outcomes really provides a context for resource allocation on campus, and it also improves the image of your disability access initiatives.

I think the first step in planning for dipsy-doodling is to clarify the values that are core to your effort. I'd like to illustrate this with some examples. Certainly one of them would be the interdependence of the human community. You know, we in America are incredibly obsessed with individualism. I really think we have a somewhat distorted sense of independence, which I think thwarts the development of community. The disability community really is in a wonderful position to model and redefine what it means to be whole, interdependent members of the human community. So I think the interdependence of the human community is a core value.

Another example that people may be tired of hearing from me is the sociopolitical definition of disability. I think we absolutely have to find a way to embrace it stronger and more widely. If you look around at our systems, our institutions, and our families, the medical and moral models of disability are alive and well. They are incredible barriers to our access agendas.

Another value is what I call the cross-disability community. We have got to find a way to subvert the disability hierarchies and appreciate the shared experiences as well as the very profound and significant unique differences among the different disability groups. But we need to find a way to build cross-disability community.

Another value might be global disability community networks. We have to find ways to end our isolation as individuals with disabilities by fostering these global networks.

Multicultural coalitions might be another value to consider. We need to challenge the prejudice and bigotry which exists within the disability community and build coalitions incorporating other social justice agendas into our agenda.

The cartoon displayed now has a person laying on the ground, kind of chopped up, and a guy with a knife is standing over him. When the police arrive, they said, "Don't arrest him. Instead, let's examine the root causes of the problem." I think that it's important to examine the root causes of the problem. It's important for us to take realities and trends into account. What are those external forces that will impact our dipsy-doodling? What's the current situation that makes dipsy-doodling necessary? I think we need to be clear on the rationale.

What is our rationale for feeling a need to go out there and build these relationships and navigate the campus? I think one reality is the perception that wrongs relative to the disability community can be righted through public policy. A short time before his death, Irv Zola, a disabled person, historian, writer, activist, and scholar, reviewed a few books on the history of disability and made this very important observation, which stuck with me over the years. He wrote, "We cannot and should not root the origin of our history solidly in the 20th century, since there has been an eternal existence of chronic disease and disability and also personal, social, and political attempts, both to deal with it and to deny it. Without this sense of history, there is no societal or even personal appreciation of the depth of the fear of disability. Without appreciation of the depth of the fear of disability there is a naiveté that wrongs about disability can be righted by single actions like the ADA. Without recognition of its presence through both time and space, we will ultimately seek the elimination and prevention of disability as our primary goals rather than its integration, acceptance, and ultimately its appreciation."

Another reality that we live with is that too many people still believe that disability access consists of making reasonable accommodations for individuals, rather than changing environments. This is prevalent in the moral and medical models of disability, where the deficit is lodged firmly with those of us with disability. Essentially, it's our problem to fix. The concept that the environment may be disabling or poorly designed really hasn't taken hold yet, although recently I have been hearing the phrase "universal design" over and over. It may be that we have designed and constructed all sorts of environments - whether it's an information environment, a physical environment, or an employment environment - but these have been designed and constructed to exclude rather than include. So it may be that we are on to something with the concept of universal design.

Another reality, though, is that there are hardly any disabled people at the table all of the time and on all issues. On most of our campuses, critical decision-making committees or groups never consider disability access because there is usually no voice at the table to remind them of its importance.

Conservative backlash is another reality. You know, we have lawsuits, and we have accountability as to who is and who isn't disabled. How much funding do we have to provide for civil rights? We also have the reality that the demand for access is up and amount of resources is down. We have competing attitudes. As people with disabilities, women, gays and lesbians, and people of color become more active advocates, those with the privilege and power are claiming that these groups have an advantage.

Another reality is that most of our organizations and offices working on diversity just have too little clout. In honor of my daughter, Andie, I have another picture. This is a cartoon that shows poor design. The swing was not built to swing but to throw somebody's head into the ground. What this says to me is that it's very important for us to define a mission that is inspiring. That really is the highest function of a disability access initiative. This picture, however, certainly wouldn't fit as a great vision for our campuses.

I'd like to show you another picture. It's called a level playing field, and it's a picture of a cemetery. *(laughter.)* We talk about leveling the playing field, don't we? We need to be careful what we wish for. Again, I think defining the mission is fundamental. We have to find ways to really be visionary and strategic about our vision and mission. We need to be clear about what it is that we're working so hard for. Without these, it is hard to determine how to adapt the various dances to the diverse disability related issues and create healthy tension without reaching that dreaded *gag* response.

Another analogy I like to use sometimes is a dripping faucet. Just as with dance, a dripping faucet can be soothing or aggravating, depending on the context or the interrelated conditions in which the drips occur. Imagine yourself as a dripping faucet advocating for disability access. How fast are the drips? How hard do they hit the

surface? What other noises are competing with the drips? And probably most importantly, did your campus think the dripping faucet had been fixed? We hope not.

While our vision for dipsy-doodling might be universally designed communities that honor and appreciate disability as an integral part of the human community and diversity, the mission might be about getting our campus communities to take responsibility for their self-awareness and their other awareness to become visionary, energetic, and enduring. Our dipsy-doodling mission is to build community capacity. I see community capacity as the combined influence of a community's commitment and a community's resources and skills that can be deployed to build on community strengths and address community weaknesses. So commitment refers to a community-held will to act based on awareness of problems, opportunities, and workable solutions. I think commitment also refers to a heightened state of support in key parts of the campus to address problems, solve problems, and strengthen the campus response.

Resources, as you can imagine, refers to financial assets and means to deploy them intelligently and fairly. It includes information or guidelines that insure the best use of funds. Resources also refers to skills and knowledge, including all of the talents and expertise of individuals and organizations that can be marshaled to address problems, seize opportunities, and add strengths to the community.

Communities and the groups and institutions within them vary tremendously in capacity. Think again of your campus community; even those most seemingly broken down do have capacity and are capable of developing more.

So the three essential ingredients of community capacity - commitment, resources, and skills and knowledge - do not just happen. Rather, they are developed through effort and willingness to work and initiative and leadership, á la dipsy-doodling. To build community capacity, dipsy-doodlers must adjust their dance steps and ask some very key questions. To what extent will my campus increase its capacity to improve access for disabled people? Where do I see increased commitment, resources, and skills? What more needs to be done to garner and deploy resources and to galvanize campus support, skills, and action?

The final set of decisions made in shaping our dipsy-doodling vision and mission is the identification of the key activities that we need to move a college or university from the existing to the desired state of affairs. To keep our focus, these should be limited in number and should concentrate on substance. Some examples might be: (a) educating community members, helping shape opinions, and galvanizing commitment; (b) attracting and collecting financial resources, compiling information, and shaping ways for deploying these resources to catalyze change in the way problems are addressed and opportunities seized; and (c) organizing people and work, developing skills, and coordinating or managing sustained effort that builds up the positive qualities of community life that can begin to resolve a problem.

Finally, it's important to think about how to measure dipsy-doodling progress toward our vision. What are the desired dipsy-doodling outcomes? Some examples might be the presence of disabled people at all levels of the institutions or improved attitudes of disabled people.

My favorite outcome, but one that is probably hardest to get on a campus, is creating incentives and sanctions for all units with respect to their accomplishments in improving access. This includes evaluating the performance of all administrators regarding their effectiveness in improving disability access and developing programs for disabled people in supervisory positions to expand their job skills and increase local pools for advancement. This results in increased commitment, skills, knowledge, and resources. Models of universal design are identified, recognized, and exported to new areas. Finally, data is refined, systematically collected, analyzed, publicized, and factored into the institutional reward system.

The last cartoon I have shows two older men sitting, backwards in their chairs, on a front porch. One guy says to the other, "I think if I had to do it all over again, I'd sit on this chair frontwards." *(laughter.)*

One thing we don't want to do is put a lot of time and effort into an initiative and then have that feeling at the end that maybe we should have done something different or tried things a different way. Or, like the men in the cartoon, we wouldn't want to feel like if we had the chance to do it over again, we'd do it another way. What we really want to do is try a lot of things, keep trying, and not give up. This work is too important and it requires so many of us to do it. There really are no panaceas in managing a disability access agenda, but I think dipsy-doodling, or po-

litical dancing, or whatever you want to call it, can be a useful tool in moving higher education systematically toward universal design.

Over the years, I've learned that strong leadership from the top is as absolutely indispensable as a talented and productive disability services staff. I've also learned that we need to dipsydoodle within a broad range of constituencies. We can't focus just on upper-level administrators. We have to change departmental cultures as well. We have to remain flexible and adaptive, within reason, and maintain a certain amount of wiggle room. We need to have allies in strategic locations of the campus. Most important of all, we need to demonstrate the passion and the fun of creating inclusive cultures and universally designed environments.

I want to thank you again for inviting me here today. I encourage all of you to participate with us this summer at the AHEAD conference in which our theme is universally designed environments in higher education. We look to you for guidance and support in modeling a universally designed conference.

Thanks for all your wisdom, your passion, and your expertise. Again, thank you for inviting me here this year. And I hope you all have a wonderful trip home. *(applause)*

Words Upon a Window Pane: Opening Doors for the Deaf College Student

Harry Lang,
Bonnie Meath-Lang
National Technical Institute for the Deaf
Rochester, NY

Karen Hopkins:
Good morning. I have the honor this morning to introduce our plenary speakers, Dr. Harry Lang and Dr. Bonnie Meath-Lang. I have known both of them for many years. They are exemplary professors at NTID, the National Technical Institute for the Deaf, and Harry is an educator ever-promoting science. You will see his name as 'outstanding this' and 'outstanding that,' and most often connected to promoting science, particularly among persons who are Deaf and hard-of-hearing. He is quite a prolific author, and I believe his third book is coming to print this week, or maybe it has happened today. He will probably tell you a little bit about that and where to find it.

Bonnie is an exemplary educator as well. She is an artistic director, a performer, and a playwright. What they are going to share with us today is what research has shown about teaching and learning among students who are Deaf and hard-of-hearing, and they will add an historical flavor to that based upon a book that they published together as well as other research they have conducted. They will also be talking about learning styles, the impact of technology, and a number of things that you'll be able to carry back to your home environment that will, in the end, have an impact on teaching and learning in your settings across the United States. At this time, I would like to turn it over to Bonnie and Harry, who will be sharing with you their perspectives. And then we hope to have about fifteen minutes at the end for questions and answers.

Harry Lang:
Good morning. First, before I forget, I want to thank all of the people who invited us and are supporting us for this presentation, including the interpreters and the captionist. About one hour before I left Rochester two days ago, I received some sad news that I want to share with you. A good friend of ours and a good friend of all of yours, Bill Stokoe, passed away on Tuesday evening. I received some e-mail from a friend at Gallaudet University about Bill's death, and I wanted to share this with you. I'd like to ask you to take a moment of silence in honor of Bill. He committed his life to American Sign Language research.

Thank you. Let me explain a little more about myself. I became deaf at the age of 15 in Pittsburgh, Pennsylvania, and I attended the Western Pennsylvania School for the Deaf (WPSD), a residential school located there. Aaron Gorelick is voice interpreting for me today, and I have asked him to add a Pittsburgh accent.

As Karen said, we plan to talk about teaching research. I have taught at NTID in Rochester, New York, for 30 years in physics, mathematics, and a methods course for preservice teacher education in NTID's Master of Science in Secondary Education program. When I graduated from WPSD in 1965, I looked around for colleges. I was accepted to Gallaudet College, but I wanted to major in Physics and Gallaudet didn't have a comprehensive Physics program at that time. So I searched around for other places, and found a small college near Pittsburgh called Bethany College in

West Virginia. Six classmates from WPSD attended Bethany with me.

At that time in the United States, there were no more than 500 Deaf and hard-of-hearing students in college, including Gallaudet. I was majoring in Physics, with no interpreters for four years—no notetakers, no captionists, no telephone, no TTY. I received my bachelor's degree in Physics with no support. Please think of this presentation as a standing ovation to those of you who provide support services.

Bonnie, would you say a few things about yourself and your background?

Bonnie Meath Lang:
Like Harry, I started at NTID as a very young professor, and as a woman teaching in a college environment, I had very few models. In that way I connected very much to the experience of my students, and I became very interested in the idea that perhaps I could effect change by finding stories, telling stories, and acting out stories. And so as a teacher, first of English then later of drama, there was a hidden agenda in my work: To find the stories that speak to people like myself, who wanted to identify people in history and in contemporary life whose lives point to the way we can and should live our lives. People like Bill Stokoe, who had the vision and the courage to pursue an area of research that was unpopular at the time. People who had the courage to stand up for themselves, to create art and theater under nontraditional circumstances. Those kinds of stories have motivated both of us, and we have cherished them as we pursue the demands that come with educating our students.

Harry Lang:
My own research focuses on the teaching/learning process. I'd like to share a few of those studies today.

When I began the "Teaching Research Program" at NTID, we asked 100 college teachers to identify the most important priorities for research. The top priorities they identified were communication issues in teaching, learning styles and teaching styles, and the characteristics of effective teachers. Today we will summarize five different studies that we chose from a host of studies that have strong implications for your work in providing support services to deaf students.

Bonnie Meath Lang:
At the same time, these areas of research are very much connected to life history work. Throughout history, deaf people have found their own ways to succeed as students pursuing an education. And some of those strategies have been both self advocating and affirming, we believe, to the work that you are all engaged in.

Harry Lang:
Back in 1984, I was invited to interview Dr. Stephen Hawking. At that time, I was a physics teacher and it was an honor to interview him. I was the president of an organization of scientists with disabilities, and during the interview I had an ASL interpreter. Dr. Hawking had a graduate student he brought with him. Hawking has Lou Gehrig's disease, amyotrophic lateral sclerosis, and his speech was unintelligible. He would speak and his assistant would repeat his words, and then the ASL interpreter would interpret for me. In the middle of the interview he looked up and he said, "Dr. Lang, it must be difficult to be deaf." I was taken aback when he said that. I love tennis, and my idea of being "handicapped" is someone with a mobility challenge like him. On the other hand, he saw the issue of communication and deafness as a "handicap." When I arrived home in Rochester, I thought about his perception and the attitudes people have about disabilities.

That started me on a quest for life stories related to people's attitudes. I believe attitudinal barriers often impede the progress of deaf people, and I want to point out how that relates to our work.

I soon began what I call "NIH Research." No—that does not stand for National Institutes for Health. It is an abbreviation I use for "Needle in the Haystack" Research. I began searching through histories of biology, chemistry, speedreading, etc., and looking for the term "deaf." Bonnie and I began working in both the arts and sciences around 1988. During vacations, we traveled to Italy, France, Germany, Scotland, Ireland, Canada, and other countries, searching through libraries, reading through books, and looking for such words as "dov" in Swedish, "gehorlos" in German, and other terms for deafness. One by one, we found more than 1,000 deaf women and men in science, math, engineering, and medicine. We stopped counting after about 1995. We focused

on what these deaf people contributed to science, arts, and humanities.

We found Nobel laureates. There are eight craters on the moon named in honor of deaf people. We found that each of those 1,000 deaf people had experiences relating to the attitudinal barriers they faced, and the struggles in their lives. Two-thirds of those 1,000 scientists were either born deaf or became deaf before the age of 5.

A book I published called *Silence of the Spheres: The Deaf Experience in the History of Science*, described the barriers deaf people faced and their contributions in fields of science. The book Bonnie and I wrote together, *Deaf Persons in the Arts and Sciences: A Biographical Dictionary*, included 150 life stories. And as Karen mentioned, there is a third book coming out this month, *A Phone of Our Own: The Deaf Insurrection Against Ma Bell*. All of these books describe the life experience of deaf people. We would like to connect a few of these stories to the information we share with you today.

Bonnie Meath Lang:
Deaf people's lives are also a very powerful inspiration for works of art. We have found at NTID that our students have been inspired by learning about the lives of deaf people through art. Two performances that we recently produced included a play I wrote called *A Sailor's Daughter* based on the life of the deaf French feminist playwright, Marie Leneru, who lived in the late 19th century. She died during World War I. Leneru created a powerful individual voice that is still very much a part of French literature. Very few people know about her; fewer people know that she was deaf. She also wrote a moving diary about her inner and outer life as a deaf person and her feelings that those lives, like many of ours, are often in conflict.

Two years ago, we lost a cherished colleague named Michael Thomas, who died at the age of 46, and was a very close friend of Harry and mine and a close friend to our program, as well as an inspiring teacher and institutor of the RIT Dance Company. We wrote and developed a multimedia dance and theater presentation based on the themes of his life as a deaf artist/choreographer, called *The Spirit and the Man*.

These were two works of love that I think demonstrate not only to us but to deaf students that these lives and this work can be creatively inspirational and artistically successful. The impact of these histories is repeated every day with the young deaf people we see and that Harry sees in visiting school programs. We have received hundreds of letters from deaf students talking about how important it is for them to know that there are other deaf people who have strived, who have pursued an education under difficult circumstances, and who have fought for access. And that is, we think, a very fundamental part of our students' education.

There is impact, too, on their teachers and on parents who have also written us. We have presented some of this work at conferences for parents of deaf children, who are unaware of the lives of famous deaf people. Certainly, these stories can carry to the gatekeepers, to the college administrators and to the people making decisions about the educational lives of our students. In the long run, we hope such stories carry to government officials, because these lives validate what we are finding about the potential for success and the characteristics of success for deaf people.

One of our favorite stories is the quotation that you saw when you were coming in to this presentation space, "Perseverantia omnia vincit," which was a quotation by Gideon Moore, a deaf chemist whose work really began to skyrocket after his graduation from the University of Heidelberg in Germany in 1869. Before Heidelberg, he went to Yale College, and when he left Yale this was found etched on the window of his dormitory room. We can look to this quote with interest—not only because it's an early example of dormitory vandalism—but also for the message that is communicated. Certainly this young man who went to Yale college and his deaf brother, H. Humphrey Moore, who is another story later on, experienced much that required perseverance. And that perseverance led later to Gideon's studying with Robert Wilhelm Bunsen, the famous German chemist, and to becoming one of the foremost chemists in the United States.

Harry Lang:
Bonnie mentioned that we received a stack of letters. Here is one quote from a deaf college student that shows the impact of such life stories: "I am now more aware of how we, deaf, have to work twice as hard to get where we want to be, to get what we need, to get support and equal rights. By doing this, we will make it easier for our next gen-

erations to have more equal access to life as did the past generations made it easier for us today."

With this prefatory note about the impact of life histories on motivation and self esteem, I would like to summarize our first research study relating to learning styles. In this investigation there were six styles in every learner's "profile." The measure we used shows how *collaborative* or *competitive* one is—also how *dependent*, *independent*, *participative*, or *avoidant*. The first finding in this study was that deaf students are highly "dependent." The term "dependent" in this measure is really not a negative concept. It means that these are students who need structure and organization and clarity. A teacher who is very organized and structured really helps such students learn better. We also found that deaf students were lower in the competitive style than expected, and that has direct implications for us. For example, some college professors, such as those in business programs, may encourage competitive behaviors. Students who are not strong in this style will be more challenged in such courses.

Issues also emerge related to empowerment and self advocacy. In our jobs, we are often involved in putting out fires. Developing a sense of self advocacy in deaf students is important. The students need to realize what's happening in society among deaf people so they can advocate for themselves more and more.

Of those six styles, the one that shows a statistically significant correlation with achievement as measured by course grades is the participative style. Let us connect this to a real life story. At the age of about 11, Konstantin Tsiolkovsky became deaf. His mother gave him a kite. Connecting a small bucket to the kite string, he sent a cockroach into the high altitudes of his kite, and he dreamed of sending human people into space. It was in the 19th century when he first built a rocket and for years struggled for recognition by the Czarist regime. Many years later, in 1957, Sputnik was set into space, honoring this deaf man on the 100th anniversary of his birth. He is now known as the "Father of Rocketry." His participation in a science experiment as a child led him to great breakthroughs.

Bonnie Meath Lang:
A more contemporary example is the deaf percussionist, Evelyn Glennie. She is very active in deaf organizations in England and around the UK. She is one of the world's only solo percussionists at this time, and has had many musical compositions written expressly for her. She is an excellent example of a person self advocating and *participating* in her own education. As her progressive hearing loss continued through her elementary school education, she pursued alternatives in studying music. She also pursued financial support for her art by writing to patrons until she was sponsored by a group called the Beethoven Society to study at the Royal Academy of Music. She was always experimenting, directly participating in determining how she could feel and read the music, how she could follow conductors, etc.

In addition to participating and creating one's own success, one thing that Harry and I learned through the life stories was the importance of *networking*. To reinforce what he said about the great work you're doing with PEPNet, your own manner of organization is a model. It was also very exciting to see some students involved with sessions this year and at past conferences, because they are learning through this conference experience to network.

There is a great deal of support in history for this kind of work. For example, we discovered a group of deaf women who set up a professional network and became master translators and cultural researchers at the Hispanic Society in New York City from the early 1920s through the 1950s. They, in turn, supported internships for other students to go there, to learn languages, and to research cultures.

There was also a group of deaf actors in the silent films, as you know from John Schuchman's book *Hollywood Speaks*. These were some of the pioneers of the film industry. They networked with what was called the Bohemian Club, a group of very avant-garde writers, artists, actors, and poets. People like Ernest Hemingway were members of this Club, as well as actors like Charlie Chaplin. There was a whole deaf contingent who joined that club from the California deaf actors of the 1910s and 1920s. There is strong support in history for helping students find their organizations and find their networks of like-minded people.

Harry Lang:
In addition to encouraging participative learning styles, we also have research that supports *active learning*. That is important for both future employment and academic success. There is a saying that summarizes all of this very well: "Tell me, and I'll forget. Show me, and I'll remember.

Involve me, and I will understand." I emphasize this in many teacher education workshops. It is critical for all of us to remember.

In a second research study, we examined characteristics of effective teachers using what we call a "structured response method." We listed 32 characteristics that teachers generated in interviews. We distributed those to deaf college students and their professors and asked them to rank and rate the characteristics. The most important characteristic, from the perspective of deaf college students, was knowledge of course material. That top characteristic is exactly the same one identified in many studies with hearing college students.

On the college level, it's not that serious a concern, but at a K–12 level, it is. In science and math education, about 80 percent of the teachers teaching deaf students have no degree in the content area. So that is an issue for teacher preparation, and it is an issue of establishing partnerships that we professionals in postsecondary education should consider.

Bonnie Meath Lang:
Again, the value of this characteristic is validated in life histories. One of the most interesting persons we researched was really the first woman anthropologist in the United States who gained notoriety, Ruth Benedict. Maybe some of you have read her book, ***The Chrysanthemum and the Sword***, which was based on her studies of Japanese culture. She was a student of Franz Boas, a foremost anthropologist in the United States in the early 1900s and the person who set the stage for seminal cultural investigations. She was experiencing a great deal of frustration as a student, but Boas' own work, which drew from different fields and different methods of inquiry, encouraged her as a deaf person to try and research more intently the visual aspects of culture. At that time, the prevailing methodology in anthropology was the transcription of oral languages and folklore, and later on, the taping of oral language. Benedict studied dance, costumes, pottery, and other visual aspects of culture. In doing so, she later became the person who was the authority in that field, and the teacher of Margaret Mead. A deaf person teaching at Columbia University, she had enormous influence in her discipline. In part, this certainly was the result of having had a teacher with the authority and knowledge of the discipline to be able to experiment and broaden his field—and encourage his students to do the same.

Harry Lang:
We found as we studied characteristics of effective teaching very similar patterns in the observations of deaf and hearing college students. There were two characteristics that were uniquely of concern to deaf students. One was that deaf students preferred more direct communication with their professors. And, secondly, deaf students want professors who understand deafness and deaf people.

Bonnie Meath Lang:
One of the silent film actors that we researched, and later a great artist and photographer, Theophilus D'Estrella, from California, worked with the Sierra Club at the time of its founding to document the environmental concerns of that club. His artistic talent became apparent to his teachers, and one sent him to Virgil Williams, one of the top artists in San Francisco at the time. Williams had no experience with deaf people, and decided that he would write notes with Theophilus D'Estrella. This communication later became a book, "Notes to a Deaf Mute Pupil," which is still read by people in arts education and teacher education as a very important document on how to help students access their creative sources. It is also an early example of direct communication by a totally inexperienced teacher.

Harry Lang:
There are professors in the early history of deaf people in higher education who learned sign language. Perhaps you have had that experience of colleagues who voluntarily studied ASL and Deaf Culture at your colleges. We drew upon life histories from many years ago to show that it is really not a new issue with our students. Many people have experienced barriers in the past and have found wonderfully innovative solutions in their relationships to overcome those barriers.

Also important was the fact that of the teaching characteristics we examined, there was a statistically significant difference between the teachers' perceptions and students' perceptions for half of those, 16 of the 32. Therefore, we cannot assume that the deaf students know why we, as teachers, emphasize certain things. The students do have different perceptions, and sometimes that can hinder their progress. One good example is in relation to encouraging active learning. Deaf students had a statistically significant ***lower*** mean rating of that characteristic relative to teachers—

meaning that the students themselves do not see the value of their active participation in learning activities. Yet as we have mentioned earlier, the more participative a student is, the better the course grades.

Another study of the characteristics of effective teaching used an "unstructured response" method. That means we did not have a pre-selected list of characteristics that people looked at, ranked, and analyzed. Rather, we interviewed 58 deaf college students and collected 839 "critical incidents." We asked them to reflect on their experience in college and think about something that happened in class that motivated them to learn from that teacher or situations that happened in class that were de-motivating. We collected 839 incidents, and we asked three college professors to categorize them. Direct communication with the teacher, once again, emerged as very important. That issue came up in 10 percent of the incidents.

In this study, there were 33 characteristics in all. We found that "teacher affect" variables were important as students reflected on effective teaching. Examples of affect included the teacher being caring and establishing rapport.

Bonnie Meath Lang:
This is also one of the ways we believe that students become aware of their own "generativity." You may remember what that student said in the beginning of our presentation—that he knew now that he had to work harder. Why? Because if he did that and succeeded, it would make it easier for *future* groups of students. That is one of the most powerful messages we can transmit to our students.

One of our favorite examples is our friend Robert Panara, who is the founder of NTID's theater and English department. Bob always looks back with fondness at another great deaf teacher, Frederick Hughes, who instilled in him his interest in drama. Bob, of course, came to NTID after his time at Gallaudet. He had great influence on the group of actors who established the National Theatre of the Deaf, people like Bernard Bragg, Patrick Graybill, our colleague, and Phyllis Frelich. His influence continues. That influence of a powerful mentor and the sense of generation is very strong and something we need to nurture as teachers.

Harry Lang:
I remember when I was a deaf college student majoring in Physics, I considered myself somewhat fortunate. Although I didn't have interpreters, it happened that the chair of my physics department had come from China, and he struggled to communicate in English. He wrote on the blackboard so much that the entire class benefited from that. But for me, there was a special bonding. And I think for deaf college students who are mainstreamed in hearing colleges that bonding is so important, as it was important to me. Having a teacher who struggled with communication issues himself really helped that happen. That bonding could be critical to retention of our students in college.

Bonnie Meath Lang:
In addition, we found in this research that our students value *diversity*. Perhaps one of the most important things we can do in the service of fostering diversity and diversity education and demonstrating the respect for diversity that we hope students will take with them into their lives is connecting them with some of the many powerful deaf people who belonged to the Deaf community, but also to other cultures and other communities as well. A few of them include John Lewis Clark, artist, sculptor, Native American; Glenn Anderson, deaf African-American educational advocate and first rehabilitation education chair from Michigan; and our director at NTID, Robert Davila, who is the son of a Mexican migrant family in California, who later became the highest ranking deaf officer in the United States government.

Harry Lang:
Another research study we conducted at NTID related to communication in the classroom. It also related to the use of technology. The study involved 144 deaf students and focused on reading in science. There were three different abilities of reading, as measured by the California test. One group of deaf college students studied text only. Another group studied text and content movies. A third group studied text and sign movies. A fourth group studied text and adjunct questions. The fifth group received all of these stimuli.

It is interesting that we found that deaf students with low reading abilities who were asked

the adjunct questions as they read, performed on a test of immediate factual recall equally well as students with high reading ability who had text only. What made that possible was the interactive element. As they read, they had to think about what they were reading. The adjunct questions apparently encouraged this cognitive activation.

We plan to do more research in that area. Right now we know that for a science lesson as we used in this study, it is really important to have mental engagement as part of the reading process. In this study, the sign movies and the content movies were passive activities. The students would just watch them and not think about them. They had to interact more with the adjunct questions.

Signs could be helpful. We saw some improvement, but it wasn't statistically significant. And we saw some improvement with the content movies, but that also was not statistically significant. These adjunct aids with instructional prose may make a difference in learning under other conditions, such as more technical content. Only additional research will help us understand the roles of various multimedia adjunct instructional aids.

Now, imagine that before I began talking about effective teaching if I had asked every one of you to take one minute and write down which characteristic, from your perspective, was the most important. The traditional way to teach is to ask a question and identify one student to give a response. By having everyone of you take a minute to think about my question, we have mental engagement. In the mainstream classroom, we have interpreters or real-time captioning. But what we also need to optimize learning is to develop more effective teaching strategies that directly involve students, whether or not we have support services and high-technology assistance.

We cannot assume that "technological advances" are automatically good for people. Historically that has not always been true. If you look at the telephone, deaf and hearing people had equal access to long distance communication before the development of the telephone. And after the invention of the telephone, it took 90 years for deaf people to catch up with the mainstream. Movies with sound tracks also had a negative impact. In the 1920s, deaf people loved to go to silent movies. Then after the "talkies" arrived, it took 40 years before deaf people had access through captioning again. In regard to the development of computer technologies, I think we need to conduct research to make sure that deaf people don't end up lagging behind with that technology as well.

What are the implications for you? We have been talking about direct communication between teachers and students. We currently provide different media for access to communication—interpreters, CART, C-Print, speech to print, notetaking. But the ideal situation, as research is showing, is direct communication between teachers and students, active involvement of the students, and interactive processes, especially dialogue. So there are some critical research questions we need to address over the next few years. How do we optimize these elements for learning in the classroom?

Bonnie Meath Lang:
In fact, what does *all* of this mean? I think if Harry and I want you to take anything from this presentation, it would be three areas of emphasis.

First, we need to conduct research continually to support our efforts. In that research process and in the associated processes, we need to involve deaf people. All of these research studies, and all of this life history work, have involved deaf people and their own creations and their own making sense of the world.

Secondly, we need to find ways to network and to pass on the stories and the research results to students and professionals in K–12 and even earlier environments. In this regard, Harry is still advocating the metric system when he says, "A gram of prevention is worth a kilogram of cure" (He won't give up that battle yet). We need partnerships between postsecondary programs and K–12 programs. We need to get our work out and to invite young students into the college setting to see how college people work together, and to see how young people in college create art, create their futures, and research for themselves the questions that they need answered to make sense of their lives.

And finally, the life stories, the awareness of the accomplishments of other deaf people and the ability to connect deaf people with each other and with powerful deaf and hearing mentors is a way to foster potential. We believe this honors the lives of deaf people as we create better lives for deaf and hearing people working together in education—the exploration of human knowledge and in the exploration of what is important in life.

Thank you.

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Office of Special Education and Rehabilitative Service (OSERS), U.S. Department of Education: Funded Programs and Projects, Past, Present and Future[1]

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Abstract

The panelists will provide background information regarding funding of significant programs and projects in research, demonstration, and service areas that have made an impact on the lives of children, youth and adults. In addition, the panelists will discuss ongoing activities; talk about future programs and projects that are needed; and discuss how consumers with hearing loss and their supporters can help shape the direction that ED/OSERS takes in developing priorities to address the needs of consumers with hearing loss.

Ramon Rodriguez:

It is not very often that the Department of Education allows four staff members to leave town. It might be possible if they were going to various parts of the country to address different organizations, but to come to PEPNet and meet in one room is unheard of. So, it required a great deal of leadership on the part of the PEPNet directors to get this panel here. I am sure you will be interested in what the panel has to say. They represent the three major offices that comprise the Office of Special Education and Rehabilitative Services.

Dick Johnson is senior member of the firm, the longest serving person in the department. He is with the National Institute on Disability and Rehabilitation Research (NIDRR) office. He will tell you a little bit more about himself in a few minutes.

We are fortunate to have Annette Reichman join us. She is chief of the Deafness and Communicative Disorders Branch (DCDB) at the Rehabilitation Services Administration (RSA) office.

We also have Ernest Hairston, who is with the Office of Special Education Programs. He is Deputy Associate Director of National Initiatives Program. Let us begin with Annette.

Annette Reichman:

Hello, everyone. I'm very honored to be here with you this evening. I'm the new kid on the block and have been with RSA for only a few months.

Let's begin with what I'm going to share with you this evening. The mission of our branch is to promote improved and expanded rehabilitation services for individuals who are deaf, hard-of-hearing, or deaf-blind. I want to make clear that our

[1] This is an edited transcript of the panel presentation.

branch, the DCDB, is under the Rehabilitative Services Administration (RSA). My position is to oversee all the states and ensure that they are providing effective vocational rehabilitation (VR) services to clients with disabilities. Our office specifically focuses on individuals who are Deaf or hard of hearing.

Those of you who are working in postsecondary institutions may have many students who are also VR clients or consumers. So VR and PEPNet have developed a collaborative relationship. We are working together to ensure that appropriate training, services, and education are available and that the ultimate goal of employment can be achieved.

Perhaps some of you here this evening are state coordinators of the deaf or rehabilitation counselors for the deaf. Perhaps you're curious as to what's taking place in postsecondary institutions that are serving your clients. Perhaps that is your reason for attending the conference. What is required to achieve employment for consumers? That means that your students and your clients need to get gainful employment. In my opinion, there are two things that need to occur for that to take place. First, they need to have qualified and adequate VR personnel. Second, they need to have access to training.

Let's briefly touch on statistics for a moment. It was mentioned earlier that there are over 20,000 students in postsecondary institutions who are Deaf or hard of hearing. This evening, I'd like to share with you some statistics and some information I discovered since I've been working in this office for the last five months. Last week, I went to a workshop at Gallaudet University regarding VR. About four weeks ago I went to Philadelphia to the Region III conference held for VR counselors who work specifically with Deaf and hard-of-hearing people. Since most of you haven't heard this information, I'd like to share it with you.

In 1988, VR noted that 9.1 percent of all deaf and hard-of-hearing clients were either successfully employed or had their cases closed during that year. According to the data I have, in 1998, that number has decreased to 7.6 percent. So the number of individuals who are Deaf and hard-of-hearing who have gained successful employment seems to be declining. If you consider VR as a whole and all the clients that they serve, the number of general VR clients who are getting employment or achieving successful outcomes has increased, whereas the number of successful outcomes among the Deaf and hard-of-hearing population has decreased.

So, last week when I was at Gallaudet, I asked the 40 people who were in attendance about their theories as to why this has occurred. I did the same thing during my trip to Philadelphia four weeks ago, and I'd like to share with you some of the theories that I received at these two different locations. One of the theories is that the economy is good; we're booming, and deaf students or deaf individuals don't need VR services any longer. The second theory was that more severely disabled individuals are more difficult to place than those who are Deaf or hard of hearing. Another theory was that there are fewer manufacturing jobs out in the workplace. The world has changed; therefore, there are fewer opportunities in that job market. Another theory was that more jobs are requiring individuals to have literacy skills as well as math skills.

In the last five years, there have been several research studies that have addressed the issue of how individuals gain employment. The researchers discovered that individuals who want gainful employment must have an 8th grade reading ability as well as 8th grade level mathematical abilities. This is required for successful placement in a competitive work force.

So the question becomes: What does that mean for an individual who is Deaf or hard-of-hearing? For those of you who are VR counselors and are working with students, this becomes a critical point. What about the Rubella bubble and the increased numbers ten years ago? There seem to be fewer deaf people now than compared to ten years ago. I'd like you to ponder this issue: Why has there been a decrease in the number of clients served by VR counselors? And what is the impact upon postsecondary institutions? If you are depending on VR and its system to support your students in the institutions, what is the impact nationally?

Before I conclude my presentation, Ramon asked me to share some more information regarding some of my other job duties. One of my major responsibilities is with regard to the RSA interpreter training programs. There are ten different regional interpreter training programs and two national programs that we are focusing on now. We are also trying to promote employment. That is another one of the tasks that I am charged with.

Regarding services to clients, there is a publication out of our office that reports the re-

sults of the recent Institute on Rehabilitation Issues. This was recently disseminated, and what it discusses is that we are not serving our clientele very well. It is available on the web at <http://www.uark.edu/depts/rehabres/publications.html>. In preparing this presentation, I asked Ramon if any SCDs or RCDs would attend this conference. If there are SCDs or RCDs in the audience, I would love to get together to have a forum on these issues. I would like to meet all of you personally and discuss these issues with you. I'd like to find out what it is you're facing on your jobs and how we can better serve consumers. I will bring that information back to my office.

I'm going to turn the floor over now to Ernest Hairston.

Ernest Hairston:

I used to work with the captioning media branch, so I worked with a lot of closed circuit television, closed captioning, video description, and those sorts of things. Even though I work with technology, I don't really have a lot of fancy modern technology that Annette used. So I can't entertain you with any video or slides. I use the old-fashioned methods: paper and literature. *(laughter)*

However, this particular document that I have with me is IDEA. It is from 1998, and includes various activities under IDEA. Some of this information came out in 1999. There is a lot of information in this document, and it's also on the Department of Education website. They have a very comprehensive website at <http://www.ed.gov/offices/osers/bosp>. This website has many, many links, including one to our captioning center. The captioning center has a lot of information and materials that I'm sure all of you will be interested in.

There have been some changes over the years related to the use of technology and providing materials in accessible formats. Many years ago, I was a strong advocate of captioning films, and now we are working on captioning videos. It used to be that deaf people applied for funding for special projects by sending in written applications. Now that is something that can be done on-line through links at that website. From our site, you can link to the OSEP website or the PEPNet website.

The Office of Special Education Programs (OSEP) funds several discretionary programs or projects. In 1998, we funded about 1,800 different projects, so I couldn't possibly mention all of them. However, I will give you some of the topics or highlights. There are state grant programs for children with disabilities. We have a preschool grant program. We also have projects related to infants and toddlers with disabilities. We fund programs for all ages, from birth to 21. There are special study projects and evaluations. One very interesting study is a national research study that focuses on the disproportionate representation of minority children within special education. You find that there are a large number of minority children in comparison to others. In the general population, that's not true.

We also have several other research projects as well. One of the largest programs that we have is the personal preparation program, formerly known as the teacher training program, in leadership at the Ph.D. or advanced studies level. Those grants were given to historically black colleges and universities but are not limited to them. We also have personal preparation in low incidence. Low incidence population programs include educational interpreter training programs. The support for that program proved to be necessary because there are many mainstream programs that use interpreting services. We now have a nationwide study that will provide research to verify the need for educational interpreting. We just simply cannot give money because we believe the need is there; we have to have research basis to substantiate that need.

I'd like to focus on technology and media, which is indeed my "baby." I have been involved with closed captioning for television. You often see "Captioning Sponsored By the U.S. Department of Education" at the end of a program. But only 40 percent of the closed captioned television programs are paid for by the Department of Education. We caption a wide variety of programs, including sports, educational programming, daytime programming like *Oprah*, for example, and the soaps. We also have descriptive video for blind individuals. People who are blind are able to hear, so they should be able to understand the television. But that's not necessarily true. They get the sound, but not the activity or actions on the screen. Descriptive video gives a description of what's taking place, and they are able to enjoy while they listen. During the silence or the pauses, they can get information like "there is a woman wearing a red dress, walking through a meadow," or that kind of thing.

We also have selective captioning. It used to be 35-millimeter films or certain types of videos, but we don't do that any longer. Now the focus is captioning educational videos and placing them in our school depositories, like video libraries, within many of our schools for the deaf.

We have educational videos and materials. After the reauthorization of IDEA, it stipulated that after the year 2001 the Department of Education could only pay for closed captioning for programs that were informational, educational, or related to the news. That means that the Department would not caption daytime programming, sports, and other programs. Since they didn't tell us what is considered educational, it was left up to us to define that.

We put out a public notice last December, asking people in the field to define what is considered educational and what is not. We received over 4,000 responses. From all of the comments that I've seen, they said that everything is educational. Many of them commented that deaf parents have a right to see what their children are listening to on television or watching what their hearing children are partaking of. There are a lot of innocent children out there and there may be a lot of undesirable language that you don't want your children to be exposed to, but the general response was "everything is educational."

We don't know what will take place when the year 2001 comes around. The FCC regulations state that 100 percent of television should be captioned. But the regulations say over a period of time – 5 percent, 10 percent, 25 percent, 50 percent, and so on. It will be done in phases.

I think my time is up, but I'll be happy to entertain any questions. I will leave information about where you can get all of the educational materials, including application forms and other publications. Thank you very much. *(applause)*

Let me introduce to you now Richard Johnson, who is from NIDRR, the National Institute on Disability and Rehabilitation Research.

Richard Johnson:

Thank you. I'm not sure if you can hear me okay. If you can, fine. If not, try to understand the sign language. I have a problem. I can think and I can talk. I can think and I can sign. But I have a problem trying to think and talk and sign at the same time. *(laughter)*

Ernie gave you his e-mail address: slash, slash, slash, slash, slash, slash. I brought some of these brochures. They are over there on the table. Here on the back is our e-mail address with slashes. *(laughter)*

I want to tell you the story of my life—in a professional sense. We have NIDRR, the National Institute on Disability and Rehabilitation Research. That was founded through legislation in 1978; it really began operation in 1980. I've been with them since the day they opened the door. It's really an unusual agency in that we do almost applied research and not much experimental research.

In experimental research, you try to figure out what the number on the next ping-pong ball will be or the next number on the lottery. We don't do that. Rather, we fund over 50 centers nationally. The centers work with a variety of disabilities. Literally, we cover everything from brains to feet and everything in between. We have a big, big traumatic brain injury research program. We have a really neat prosthetics development program up in Chicago. In fact, maybe you followed the Disabled Olympics a couple years ago. A young man came close to the world record for people without disability in running the dash, and he was wearing a leg designed at one of our centers. It has special spring toes to give him a boost; it's really neat. These people are dedicated to their work and they are always coming up with new ways to use new material and improve designs. They are very innovative.

We also have a number of other programs. For example, everybody uses computers, but computers don't always come in one size. They come in little sizes and big sizes and so forth. We work with a variation of that, trying to find new applications for people with different kinds of disability.

We have, for example, a program at Smith-Kettlewell Eye Research Center in San Francisco. Among other things, they are looking at how to use little inserts in the eye for blind people to help them see. I know you are interested primarily in hearing loss, because that's your field. I'll try to get into that a little bit. But before I do, I want to mention some of the other aspects of the program that may be of interest to you.

First of all, we are not only national, but we are also international. We have a lot of affiliated programs overseas because disability, as you know, is not limited to any one country. People get a funny expression on their faces when they talk about it, but I have landmine program. Yes, a landmine program. We are working right now in what used to be Yugoslavia. There are a tremen-

dous number of children and adults who step on landmines almost every day. So we work with a lot of that kind of physical damage.

We have developed technology for early identification of hearing loss in newborn infants through our program at the Lexington Center in New York. We worked the bugs out, and then we went to the National Institute of Health. They picked it up and administrate it. Now it's used widely in delivery rooms. If the profile is not in the normal range or if there seem to be some abnormal spikes, then they have the child examined more closely. They also have digital hearing aids that were originally developed at our center in Lexington.

We have a lot of assistive technology, with different kinds of devices to get people who have hearing difficulties or visual difficulties more into the mainstream. And on that note, if you are a computer nerd, you may be into Windows '98. If you are, you may be aware that the special section on built-in assistive devices in that software came from our center in Wisconsin, the Trace Center. The Trace Center also works closely with Gallaudet in the area of telecommunication, which is another area that is booming.

We also fund rehabilitation research and training centers, including two in the area of deafness. Doug Watson, who hopefully is here, runs the Rehabilitation Research and Training Center for Persons who are Deaf or Hard of Hearing at the University of Arkansas in Little Rock. You may also be familiar with the Rehabilitation Research and Training Center for Persons who are Hard of Hearing or Late Deafened that is at the California School of Professional Psychology in San Diego.

In addition to the centers that I mentioned around the country, NIDRR also funds other kinds of research. "Initiated research" is something that we decided we need. You send in an application and a group of experts reviews it. We make decisions about awarding funding. A typical three-year grant will provide about $160,000 to $170,000 per year to a successful applicant.

We have other kinds of programs that involve other kinds of grants. For example, you may be familiar with the ADA Disability and Business Technical Assistance Centers (DBTACs). There are ten of those centers located around the country, and we support them.

We also have fellowships, which is the only program that provides funding to individuals. If you are interested in pursuing a research topic that is of special interest to you and important to the field, you can apply for a fellowship to fund the research. It's very popular to take a sabbatical or otherwise leave your work for one year, but there's a lot of competition for those fellowships. *(laughter)*

I brought some brochures that explain some of this information in more detail. I will also be around for the next couple of days and would be more than happy to sit down with you and explain any part of our program that you may be interested in.

Thank you very much. *(applause)*

Ramon Rodriguez:

Annette, Ernie and D.J., thank you very much for your sharing information from your offices. All three of the panelists will be available here throughout the conference. Please feel free to visit with each of them if you are interested in finding our more about what their offices do. Thank you very much for your attention. Thank you. Good night. *(applause)*

PEPNet Then, Today (Now) and Our Hope for the Future[1]

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Abstract

As many of the members of the audience have probably experienced, students who are deaf and hard of hearing are attending colleges and universities at a higher rate than ever before. This presentation will provide an overview of the Postsecondary Education Programs Network (PEPNet), including a review of the initial goals and activities of the regional centers, a description of current projects, and a discussion of plans for the future. Key to the success of the project are the establishment of a network of regional postsecondary education centers for outreach and technical assistance that focus on individuals who are deaf and hard of hearing, the use of new and emerging technology, traditional and non-traditional approaches, flexible and interactive learning settings, and low-cost resources to provide increased opportunities.

Ramon Rodriguez: We have been looking forward to this conference for the past two years, ever since we met in Orlando, Florida. I would like to present greetings from Secretary Riley of the Department of Education; from Judy Heumann, Assistant Secretary for the Office of Special Education and Rehabilitative Services; from Fred Schroeder, who is the Commissioner of RSA; and from the new guy on the block, Ken Balick, who is the Director of the Office of Special Education Programs. This is the program that funds PEPNet, the four postsecondary regional centers for the deaf. On behalf of the directors of our regional centers, welcome to PEPNet 2000.

I'm very happy to be here. I'd like to share with you where we have been. Before PEPNet was developed, there were four very independent regional centers that developed model demonstration programs to serve Deaf and hard-of-hearing students in the four regions of the country. These programs provided direct services to students. Around the time of the last grant competition, there was a lot of discussion within the department: Is this an effective way of really reaching many, many more Deaf and hard-of-hearing students who were beginning to attend

[1] This is an edited transcript of the panel presentation.

mainstreamed programs? Until that time Gallaudet College (and later Gallaudet University) and the National Technical Institute for the Deaf at RIT were two national programs that provided wonderful programs for the students who wanted them.

However, PL 94-142 mandated that all children with disabilities should attend their neighborhood schools, changing the educational opportunities for Deaf and hard-of-hearing students across the country. Since that time, a vast majority of students who are Deaf and hard-of-hearing are attending mainstream programs. In a recent survey by the Department of Education, published in March 1996, it showed that there were about 20,000 students who were Deaf and hard-of-hearing in some 1,850 institutions around the country. It was interesting to note that there were about 7,500 students who reported themselves as being deaf and about another 7,000 students said that they were hearing-impaired or hard of hearing. The remaining number indicated that they had a hearing loss.

Today we project that there are between 25,000 and 30,000 students out there that you are serving or not serving. There is also a population of students who are hard-of-hearing; many of these students have severe needs and may benefit from services that you can provide. But, unfortunately, they have not identified themselves to you yet. Hopefully, we will be able to serve that group over the next several years.

This evening, the four regional center directors will share with you what is happening today, including what PEPNet is doing and some of the things that are happening within each region. So, I present to you Don Ashmore from the Postsecondary Education Consortium, who will provide us with a history of how PEPNet came to be.

Don Ashmore: Hello. It's good to see you all today. I'm a mile high, and I lost my voice in the process. After PEPNet '98 in Orlando, we reviewed the evaluations from the participants, and one of the strongest comments was that the participants wanted to know more about PEPNet. They felt that it was important that we explain it to the group. So our panel is here to share with you who we are, what we do, and how we might impact or affect you.

Today, PEPNet is five years old. That includes the pregnancy. *(laughter)*. There are four of us. In 1995, California State University Northridge, the National Technical Institute for the Deaf, Saint Paul Technical College, and the University of Tennessee at Knoxville all submitted proposals to become regional centers for postsecondary outreach and technical assistance. As Ramon said, we had four very independent regional centers. He challenged us to work together to provide a national impact and enhance postsecondary educational opportunities for students who are Deaf and hard of hearing.

In the fall of 1996, the regional center directors and their staff all met in Washington, DC. The question that was before us was: How shall we work collaboratively together and coordinate our efforts for a maximum national impact? It was a very interesting process. During that time, we identified 14 different areas that we should be addressing.

Several months later, the regional center directors met on the campus of California State University Northridge to develop a mission, vision, and goals for PEPNet. At that time we also developed a preamble, which served as a guideline about how we would work and function together as a team.

The mission of PEPNet was to promote coordination and collaboration among the four regional centers. You have to remember, this type of collaboration was something we had never experienced before. It was something new. And what would it mean? Where would it lead us? Our thought at that time was that the four centers wanted to work in collaboration and cooperate with one another. The directors decided to strive for being the best model for networking for all other professional organizations. We wanted others to be able to learn from us. And we are currently in that process.

We developed four goals during that meeting. The first goal was to improve postsecondary access for students who are deaf and hard of hearing. This does not include only those individuals going to college, because it also includes those participating in other postsecondary training programs. The challenge was to serve that broad spectrum.

The second goal was to develop a national design for technical assistance and outreach. We weren't sure at that time what would happen or what would be developed, but that became one of our goals.

Our third goal was that we really wanted to expand the knowledge and skills of all of the professionals working at different institutions all over

the country. But how could four regional centers accomplish that?

Our fourth goal was to increase the networking. I think that's a very key word, and it's been very successful.

Finally, with the goals that we had established, we wanted to increase postsecondary enrollment, retention, graduation, as well as employment rates. All of these needed to be increased for Deaf and hard-of-hearing students who were attending postsecondary programs.

When PEPNet was three years old, we got tired of the baby food. *(chuckles)* We realized that we had to get back together to carefully consider our future, how we would plan, how we would expand, and what kind of impact we would like PEPNet to have across the country. This time we met in Knoxville. It seemed that after that strategic planning meeting, we started a family. We recently met in Rochester at NTID, and it wasn't just the directors and the staff of the regional centers. We also included personnel from our outreach sites. Suddenly, there were 70 of us. And we were growing, and we still are. During that particular meeting, we had a "train-the-trainers" workshop. It was an opportunity for all of us from across the country to exchange information. We needed to show the different training models to one another that we had developed with the intent of training others across regional lines. We affectionately called this group the "PEPNet family."

Now we are in the year 2000, and we have developed a hunger for more knowledge. We need to know what really works, what's effective, what truly increases enrollment, retention and graduation as well as employment. What does that? We feel that that the research conducted in the past might not have specifically addressed our issues. So we decided to develop a framework for a national research agenda. To do that, we wanted to be all-inclusive and invited representatives from NTID, Gallaudet, several Rehabilitation Research and Training Centers, and PEPNet to come together to provide a framework. We will share some of this framework with you during the course of the conference. We will have external reviewers-reviewers from your institutions-to advise us, because we need to know if this is really what you agree that we need to study.

So that's where we are right now. Now, I'll turn it over to Ray Olson from the Midwest Center for Postsecondary Outreach.

Raymond Olson: Thank you, Don. I'm Raymond Olson, and we are live on the Internet at the PEPNet website right now. Tonight, you can see what PEPNet has to offer. I feel it is a privilege to stand before all of you to share this information, because you helped make this successful. I'm going to show you what's happening here in PEPNet, via what's included on the website. Many of you have already surfed the net and have looked at the PEPNet site. Later, I will share some statistics that will probably surprise some of you regarding what has transpired through <pepnet.org>.

This is our first page. It explains who we are. When we want to look for information from one of the four regions, we go to this page to access the news from each of the regions. This is our linkage between each one of us. So, technology here has really brought us closer together. I don't think any of us could have done as much as we have without all the technology that we have seen in the last five years.

There are links to each of the regional centers as well as other kinds of information that can be helpful. One link that has been very popular is the one that lists job vacancies. This is a good resource to find out what positions are available across the country.

We also have a link regarding grants information. We are linked up to many sources of grants that are available, and we are planning to enhance this to include information to help people develop grants and find out where they are.

There is a link to the PEPNet listserv. The address for it is <pepnet@rit.edu>. Members of the listserv are from all of the regions of the country.

Many of you have accessed the on-line orientation to deafness. This is an on-line training activity that has really developed since last April.

Many of you went to the PEPNet biennial conference link to find out more about tonight. *Innovation in Education*, is truly happening. We include information about the teleconferences, such as the one we just finished. Two more teleconferences are being promoted and will take place within the next year. Those are very successful activities.

We included the schedule for the live PEPNet chats. Although we had a few glitches last year, we plan to continue live chats on the Internet. We had some glitches with the chat software and not many people could log on, but we have solved that problem and there will be other chats in the

future. By the way, we have had successful chats between the PEPNet regional center directors and Ramon, as well as between the trainers and coordinators. We have been really happy with them, especially since we don't have to take notes. We can take the notes right off the chat room transcripts!

There is a link to the PEPNet Resource Center (PRC) where you can access some of the materials and products we've developed. When I discuss the statistics for website use, you'll be able to see how frequently people access this site.

After looking at the information we've gathered, we learned that not all of you sign in the guest book when you visit our site. I know that we have a lot more visitors than we have guests that have signed in. But that's alright. Our site map shows you more of what's included in the website.

We've just completed a live tour of the PEPNet website and we're back home. While I didn't go into all the links, you can start to better understand the depth that you will find on the website.

I'd like to share some statistics with you about the PEPNet website. First of all, we had 51,000 site visits. Any time you have made a contact with the website, it's counted. We have had 12,000 visits from the website to each regional site. This is the number of times that you went from <pepnet.org> to one of the regional sites.

We have had 3,000 visitors to the PEPNet news link since June 1997. The on-line training link has had 2,300 participants since April 1999; 348 participants decided to take a certificate for completing the training. Of the participants, 1,226 are from postsecondary settings. And of that group, I have broken it down for you:

- Administration 21%
- Faculty 14%
- Professional Staff 30%
- Students 12%

We have had 2,100 people visit the job page, looking for work. I didn't know there were that many jobs out there! There have been about 2,000 visitors to the interagency agreement site. In the future, you will see interagency agreements on each of the sites, reflecting the status of the development of them in the states in each region. There have been 1,647 visitors to the grants page, just linking you to other grant locations. Since January 2000, there have been 700 visitors to the PEPNet teleconference to find out about our most recent broadcast.

There have been 16,808 items that were sent out from the PRC. While our data indicate 1,300 visitors to the PEPNet listserv from <pepnet.org>, I'm sure there are more people who contact it directly.

This gives you a picture of what the technology has done and how it has enhanced our efforts. I don't think we could have done that through the mail. PEPNet.org has been a part of this, including the listservs, the contacts with the PRC, and all of this technology. There is much more being done, but I'm just sharing with you all of the linkages we're able to create through the PEPNet web page. Now I would like to turn the microphone over to Karen Hopkins from the Northeast Technical Assistance Center. She will share information about each of the regional centers and state outreach sites.

Karen Hopkins: I'm Karen Hopkins from the Northeast Technical Assistance Center, and I have the privilege this evening of introducing you to the PEPNet family. Yes, we are four regional centers. We are each set up in a little bit different way because we established our structure based on what works best within our own region. I am going to miss a few names tonight, because we would be here until long after 9 o'clock if I introduce every member of the PEPNet family who is in the room. So I'll recognize some key players.

I'm going to start with WROCC. We have both hubs and affiliates within the WROCC site. We will start with the hub representing Utah, Wyoming, Nevada, and Montana: Kay Fulton and Linda Marie Allington. Cheryl Davis represents Alaska, Idaho, Oregon, and Washington.

Our hostesses are Lindsey Antle and Paula George, representing Colorado, Arizona and New Mexico. Coming from Rochester, New York where they had to de-ice the plane this morning, it's a pleasure to be in sunny Colorado where it's 76 degrees. Wonderful weather!

Because the State of California has so many postsecondary institutions to serve, they have an affiliate in the north and an affiliate in the south. In the north, we have Angela Funke Koetz. In Southern California, we have Audrey Parker and Lucinda Aborn.

You can see that the WROCC site is set up with representatives for every state, and in the State of

California there are two institutions working with WROCC. Also, from the WROCC Central Office, there is a team of several people who are here tonight, including Gary Sanderson, Allisun Kale, Jennifer Olson, Tony Ivankovic, Jim Macaluso, and Terri Goldstein.

When we move to the southern region, Don's team in PEC is set up a little bit differently in that each state, for the most part, has a single institution and a single representative. There are a few states that are being served by the PEC's Central Office.

From Alabama, Dan Miller and Cindy Camp are here. Arkansas' representative is Sharon Downs. From Florida, we have Harriet Clark and Rebecca Herman. Georgia's representatives are Lisa Fowler and Katherine Bruni. In Kentucky, Vicki Brashear provides outreach. Louisiana's representative is Jennie Bourgeois. Carol Kelley and Jamy Dickson serve Mississippi. From North Carolina, Peggy Brooks is here. Oklahoma's representatives are Don Hastings and Shelli Dismang. Nancy Lane is South Carolina's representative. Virginia is served by Lucy Howlett. Tennessee, Texas, West Virginia, and the Virgin Islands are served by the PEC Central Office team, including Marcia Kolvitz and Kay Jursik.

Because of the regional center concept, we were each encouraged to set up our centers in ways that worked best within our region. So MCPO established sites that would serve postsecondary institutions within their specific states, but then also sites that would serve community-based programs. Serving colleges and universities in Ohio and Indiana is Claudia Bergquist. Tom Thompson and Denise Kavin provide outreach in Illinois and Missouri. Postsecondary institutions in Wisconsin, Michigan, and Iowa work with Ginny Chiaverina and Bambi Riehl. Serving community-based programs east of the Mississippi River are Diane Jones and Steve Sligar. Serving community-based programs west of the Mississippi River is Sharaine Rawlinson from the MCPO Central Office. Also, here from the MCPO Central Office are several staff members, including Debra Wilcox Hsu, Dave Buchkoski, and Patty Brill.

Finally, the group from the snowy northeast, the NETAC team, the Northeast Technical Assistance Center. From Connecticut is Elaine Taylor. Delaware is currently served by the NETAC Central Office, in a similar way that PEC is serving a few states. The District of Columbia is served by Sylvia Walker, who was not able to be here this evening. From Maine, Barbara Keefe is here. Maryland's representative is Flo Clooney. From Massachusetts, Jane Nunes is here. New Hampshire's representative is Cate Weir. Josie Durkow is from New Jersey. Because of the size of New York State, we have an upstate person and a downstate person. Desiree Duda is serving the New York City area, and Charley Tiggs serves upstate New York. Charley is from the NETAC Central Office. Pennsylvania is represented by Lori Hutchison. Juanita Rodriguez-Colon represents Puerto Rico. Brenda McGill is here from Rhode Island. Joe Panko is the representative from Vermont. We also have several members of the NETAC Central Office team here, including Pat Billies, Mary Lamb, Charley Tiggs, and Pam Francis.

So you can see, we are a diverse structure, but we are making it work. We have done, we think, a very good job pulling together services all across this country. We not only take what we developed within each region, but we take that and share it with everyone else in the other regions. We try to share it with you through the PEPNet Resource Center. We are here to make your lives easier in the future. We know that there will be more and more Deaf and hard-of-hearing students entering your programs.

At this point, I want to turn it over to Merri Pearson from WROCC, who will be talking about some of the changes that we expect you will be seeing in the years ahead–the vision of the future.

Merri Pearson: Hello. I'd like to talk briefly about what's happening in terms of the future of education, the future of the United States, and the future of deaf education. First, as you can see, we have what is called in today's business terms a "loosely coupled organization" here, which means all four centers have very different organizational structures. They have very different ways of doing things, and yet we still work together. I think that's exciting. I think we are right now ready for the future because the future will demand organizations that are capable of handling change. These organizations must be flexible enough to deal with the rapidly changing economy, the job market, and education as being impacted by technology.

So, in brief, you've heard from Don, Ray, and Karen. And now you're stuck with me. This is my

first year with PEPNet. I am amazed at the work that all of you are doing. Wow! It is so impressive. Because on a national level, data is a commodity. Like it or not, the future jobs will be either in data or in service. The people who can manipulate data and the people who can provide a service will have jobs. So that influences what we should be doing in postsecondary education, right?

Did you know we're moving toward a global economy? We're not just the United States anymore. We have to think in terms of global economy. We have to think about jobs. We have to think that the graduates of today will have, on average, seven career changes. This means that the kids in your classrooms are going to need to understand that learning does not stop when they finish their bachelor's degree or their associate's degree or their technical certificate. It means we're talking about lifelong learning and change. It's a little bit frightening, but think about the things we as community colleges, vocational schools, technical colleges, and universities can do. We should be busy forever.

The community colleges are no longer focusing on educating students for transfer into universities. Some of you have already noticed this. You know that students finishing technology programs in community colleges can go out into the world and get a job and earn more money than most of you. *(laughter)* Students in technical and vocational schools can graduate from programs and not necessarily want to continue their education right now. So we're seeing some changes there as well.

Colleges, universities, and other postsecondary institutions must become institutions for lifelong learning. We have to change our mindset. Right now, we see some personnel shortages. There are not enough teachers of the deaf. This is true not only in K-12 schools, but also in postsecondary institutions. Where do we find the people? I was talking with Al Pimentel, the superintendent of New York School for the Deaf in White Plains. He is desperate to find good teachers of the deaf. I was talking with Ramon, and he was explaining that even NTID is looking and looking and looking for qualified teachers of the deaf. We are desperate. We need good educators who understand the needs of Deaf and hard-of-hearing people.

I talked a little bit about the national things that are happening. I talked a little bit about the postsecondary institution issues. Now I want to talk about the population that we are serving. Did you know that by the year 2002, one-third of our students will be "ESL." That means that English is not the primary language in the home. And I'm not talking about deaf kids of deaf parents. I'm talking about Deaf and hard-of-hearing children of hearing parents. One-third. We need to be ready for that. There are cultural, social, and other issues in addition to language that we have to be ready for.

Did you know that 20 years ago we could only identify 70 percent of the babies who were born with hearing loss? Now, with technology and the new tests they have, we can identify 90 percent. There are significant implications. Some parents may choose technology enhancements, cochlear implants, and other assistive listening devices that can help with language acquisition.

Did you know that schools, with all of the legislative and regulatory requirements, are continuing to move toward inclusion? Now, for deaf kids that can be scary. You may know and understand the concept of critical majority, or critical mass, but some of the school districts and states may not understand that. So we need to be ready for that.

Poverty is another issue. If you look around, the United States seems to be richer and richer and richer and richer, and you hear about the stock market and technology. Understand that some of the deaf people in our country do not have access to the growing economy. And, in fact, in most of the reports that I've read the deaf children of deaf parents are becoming more impacted by poverty. That will influence what we should be doing.

Lastly, think about this concept of transition. You know that federal legislation now requires transition planning for all children with disabilities, right? But how many of the plans consider the trends toward the global economy, the changing job market, and the educational changes that are happening? We need to do better. We need to be thinking not only of high school to college transition or community college to university transition, but we also need to be thinking about transitions in elementary school and middle school. We need to recognize transition issues not only into community colleges and universities, but also computer schools, vocational schools, and other types of training programs. We need to think about where

the jobs will be and the training programs that students need to enter these jobs.

So to conclude, we should be very proud of what's happened in the past five years through PEPNet. We have brought together four very different organizations. We have been successful at collaborating with national level goals and ideas and concepts and dreams. But now, as we look at the research agenda and as we look at the next step, don't forget about what's happening out there in the world, in the economy, and in education. And I think that knowing all of you, we're going to do really well.

It's an exciting time. So now, I turn it over to Ramon Rodriguez. He will talk a little bit about what's happening at the federal level. Many of you know that we're in our last year of the current funding cycle, and we will have to compete again to get money from Congress to continue our work. Ramon?

Ramon Rodriguez: Thank you, Merri. Thank you, Ray, Karen, and Don, for your presentations. Let's talk a little bit about the future. By the way, we are in our fourth year of your grant, and we have one more year to come.

I think this is a very exciting program. If you have not read my welcome letter in your program book, you will note that this program is authorized under the Individuals with Disabilities Education Act (IDEA). That Act includes a statement that the Department of Education will fund postsecondary regional centers. It does not say four nor does it say that the country is divided into regions. But the appropriations authority says there will be four regional centers. The program is up for competition in 2001, which will be the final year of this grant. We are optimistic that the program, as you know it now, will continue. We're looking for a focus in areas that we did not ignore, but—because of lack of time and resources—we could not address.

We have tried our best, and I think it has been quite successful, to set up an organization that cuts across the four regions, resulting in coordination and collaboration of services and activities. The purpose was to avoid duplication, and I think we have done that very well. However, there are areas of our population that are not being served. If they are being served, they are being served in a very limited way.

I would also like to share with you that through the directors and their leadership, two very, very important outcomes resulted. One was through RSA and the Institute on Rehabilitation Issues. PEPNet sponsored a meeting in Washington, DC, about a year ago and expressed concern that individuals described as low-functioning were not being served. As a result of that, OSERS through RSA commissioned a study on this issue. That report is out, and I hope that that it is well-disseminated throughout the country. We would hope that in the near future you will be able to take some leadership in providing services to that population.

The second very important area that resulted from the PEPNet leadership was a national policy forum on deafness. It had to do with federal funding—past, present, and future. A report has been out, and recommendations are forthcoming. So those are two very important issues. And that is the future; we will act on those issues.

The work of the regional centers in addressing the federal priority has exceeded our expectations. That's the work we're doing right now that will continue through 2001. So I look forward to your continued support and your interest. As some of us said while working on our national research agenda, we invite your input. Think out of the box. Think the unthinkable.

And with that, I want to thank you very much for your attention this evening.

Equal Access for Deaf and Hard of Hearing Students — The Evolving Nature of the Dialogue

Jo Anne Simon
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Brooklyn, NY

Merri Pearson: Good morning. You've had enough coffee so you're going to stay awake? I see very little movement. (Laughter.)

Maybe they will fall asleep. I don't know. Well, it's my honor to introduce a wonderful advocate of ours. This individual has supported Deaf and hard-of-hearing people for years. She has assisted NETAC with many projects. And she herself is one of the best attorneys that I know. She is a friend to PEPNet and has been and will continue. So she is going to talk for about an hour, and then we have the opportunity for questions. If you have a question that comes up in your mind while she's presenting, please write it down, hold it until the end, and then when she's finished with her presentation, if we can make a line right near the microphone, right there, we will have interpreters set up so that both the audience and anyone sitting up here can understand them. We will have signing and voicing interpreters available and ready for all of you. Okay? So I would like all of you and myself to provide a warm welcome to Jo Anne Simon, Esquire. (Applause.)

Jo Anne Simon: Thank you.
As many of you know, I do sign, but for today's purposes, I've elected to utilize the interpreters. The interpreters are free to tell me to stop and slow down. I am from New York, so I do talk fast.

I also want to note that you can get RID CEUs from listening to my speech and from attending this conference. Ironically, I just recently got a letter from the RID saying—because I hadnt done my CEUs—I was no longer certified. So I just lost my certification, but you can keep yours by listening to me! My lapse was totally intentional; I had no intention of keeping it up because I don't sign often enough to inflict myself upon anyone as an interpreter. (Laughter.) But I think it's just a little ironic.

My remarks today are going to be fairly broad in nature and focus more on policy and advocacy issues than specific case law. I'm not necessarily going to tell you about what different cases in higher education said. I will refer to a few cases, but on the whole that's not the purpose of my discussion. I want to talk about where we have been, where we are going, and what we are going over again in some cases, and what kinds of things we may be able to do as we move into the future.

I'm not the first person to have said this, but past is prologue. When I started in graduate school at Gallaudet in 1974, which is a hideously long time ago, there was great excitement about the hearings going on on Capitol Hill. We learned about the Babbidge Report from the '60s that talked about how deaf children were undereducated, particularly in preschool, and how we didn't get them into education soon enough and that we needed to focus on the specific needs that were unique to them as children who were Deaf and hard-of-hearing. Throughout the hearings on what is now the IDEA and what we referred to at the time as P.L. 94-142, none of the states objected in any way to the passage of federal legislation requiring them to provide special education, because federal dollars were going to accompany that. Most states didn't have much in the way of laws requiring education of students with disabili-

ties. Some of them did have laws, but those that did, didn't do very much education. They had laws on their books and they didn't enforce them; they didn't provide much in the way of educational programming, and they certainly didn't provide much in the way of choice.

One of the ironies now is that the U.S. Supreme Court is taking aim at all of these kinds of statutes on the grounds that the states already have statutes. The states can apply the statutes and enforce them themselves, they don't need the federal government to tell them what to do. And I propose that we do need the federal government to tell the states what to do, because the states weren't doing it. Since P.L. 94-142, they have been doing it kicking and screaming, and if we do not have that big stick that is the federal government and the federal government's money, we are going to find ourselves in a great deal of difficulty. And we are going to find ourselves right back in the '50s and '60s when our students weren't being educated at all.

I want to talk about three basic things. One is the promise of the ADA, whether it has been fulfilled, and where we are in what I think is going to be a long course of fulfillment.

I want to talk about a few recent legal decisions and connect legal trends, one of which I just referred to. And finally, I will talk about some things that we can do and things that I suggest you do as service providers in your institutions to make sure that we do fulfill the promise of the ADA.

One of the things that I find the most disheartening about what's happened since the ADA was passed is that if you look at the purposes of the statute, it says that decisions with regard to the abilities of persons with disabilities should not be made on the basis of stereotype, myth, presumptions, ignorance or fear; and yet that's exactly how these decisions are being made in many cases. The ADA has not led to the public education and public awareness of the civil rights notion of disability, as it was supposed to. We still have courts, service providers, employers, and testing agencies making decisions about what's a reasonable accommodation or whether or not you have a disability, based on a very antiquated and, I submit discriminatory, notion of what disability is all about.

And I'll give you an example. I have a case now in another state in which a woman who has Attention Deficit Disorder and a learning disability was diagnosed late in life. She struggled and utilized a lot of informal accommodation, with friends and family helping her and reading to her and checking her work throughout her education, she managed to graduate from Veterinary School. She has now taken the veterinary exam 7 times. The first few times, she didn't have accommodations because she didn't have a formal diagnosis. She went back and got that formal diagnosis by a very good organization which is, in fact, fairly conservative.

The examination agency then provided her accommodations — and this is the key to our case. She needed a reader and additional time. So they provided her with a reader who couldn't read the words on the test. And I have argued that the notion of a qualified reader, which the law does not define with the specificity that it does for a qualified interpreter, should be analogous to the qualified interpreter definition. If you are reading to someone and you cannot pronounce the terminology, if it's jargon or medical terminology or just your having difficulty pronouncing words because you yourself are not familiar with them, then you're not a qualified reader.

This State essentially said, you asked for a reader, and we gave you one. In other words, we didn't guarantee that the reader could actually read. Now, since we deposed those readers who really couldn't read, they had no way of winning this case, except to challenge that my client does not have a disability. So now they are arguing she's not really disabled because she got through veterinary school. In other words, she can't be disabled, because if she were disabled, she wouldn't have been able to succeed.

This notion of one-size-fits-all accommodations, as in this person has a Master's degree in elementary education, so they can read; therefore they can read for any purpose, is like saying that this interpreter, who has never interpreted in a computer course or has no knowledge of that area, can interpret for that particular course or this person who has no knowledge of the legal system would be a good legal interpreter. We know that is not the case. And yet we are subjecting people with disabilities to those kinds of one-size-fits-all services based on ignorance. There is a reason why separate qualification is needed. That, in fact, a veterinary licensing exam is not the same

as a cosmetology or plumbing exam in terms of the reader's ability and knowledge. That access to legal interpreting is not the same as access to interpreting on the stage.

One resource I can refer you to, which is an excellent resource in general for people in higher education, is the Office for Civil Rights decision last summer in the San Diego Community College case. It's fairly lengthy. It talks a lot about interpreter shortages. It talks a lot about the need to assess interpreters and how to select which interpreters for which courses, interpreters who might sign in certain ways for students who use certain types of sign language, or possess the ability to use realtime captioning, and it outlines some best practices.

I think that best practices is the next key point. One of the things we have done since the ADA came into being, much more so than under 504, was overfocus on the law. And you may think that is strange, coming from an attorney. But the fact is people are overfocusing on this shifting line in the sand. And if you are really following the law, the law says to make these determinations on a case-by-case basis. So that means what works for Johnny over here may not work for Susie, not for reasons that you necessarily anticipate or understand, and it may not be effective. You can't insist that Mary use Johnny's accommodations if they don't work for her, if they are not effective.

You can and should use the law and legal decisions as guidance, but the law will not make your decisions for you. You're going to have to do the analysis and think it through yourselves and make your own decisions. And if you overrely on prior case law, you might just make a mistake as to where that line in the sand shifted in that particular matter. And if you go to court or if there is an OCR complaint, OCR really isn't going to care whether this accommodation worked for someone else. They will care if it worked for the student who filed the complaint.

So, I suggest that you follow a best practices approach, and I refer you again specifically, in terms of interpreter policies, to the San Diego Community College case. I think it did a very good job of outlining how the school went about dealing with a lot of these very, very difficult problems of interpreter shortages, a very large population of deaf students, deaf students with different communication needs, a lot of the misunderstandings on the part of the faculty as well as the administration, and some misunderstandings of their rights on the part of the students. And so I again refer you to that decision. It is posted on the AHEAD website at <www.AHEAD.org>.

I further suggest that we not stand on ceremony as much as we have in some cases. I know from talking to people, that one of the contentious issues that has come up is who gets the transcript, or do they get a transcript, when CART or realtime captioning is being used. I honestly don't understand why a transcript can't be provided. I honestly don't understand why a student would want to read the thing again and again and again. It's not effective as notes for most purposes. Nevertheless, you've got a transcript. The accuracy of the transcript could be a problem, but even if it's accurate, students who are using CART are not students who are interacting with the information in the same way as you would with a sign language interpreter. And interacting with information is key to education. It's key to really learning. So if you are reading on a screen, you are just reading words, not necessarily interacting.

One of the things I'll talk about later is how deaf students read and why this may or may not be an appropriate accommodation. But if it's appropriate — let's say, for someone who becomes hard of hearing due to old age, and is 60 years old, has a terrific English background, and is reading realtime reporting for a play or something. It's a very different kind of function for most students who are deaf from birth or shortly thereafter. That means you are relying on the reading skills of a population of students who have, in many cases, not very good reading skills. Even if they are fairly well developed compared to a lot of deaf students, they are not well developed in relation to most hearing students. So we are asking these students to do a much more difficult task than we realize.

There is nothing legally that says you shouldn't give or can't give transcripts. I know that some people object to having to pay the extra money to have that transcript edited. That may be a resource issue and you may be able to negotiate that with the student. The student may prefer to have the unedited transcripts. I know that a lot of times the transcripts are on disk. The student can have them on disk. The student can edit them for notetaking purposes. And the faculty members often like having the transcripts for their reference.

The other issue is overfocusing on the law. No, it's not a copyright violation for you to tape a faculty member's lecture or for you to have it put into a transcript through realtime reporting. Every word that comes out of the faculty member's mouth is not copyrighted, number one. If they are reading from copyrighted material, then that material is already copyrighted. But taking that information and putting it into a usable media for a person with a disability is an exemption to the copyright laws. So whether they are correct that every pearl that drops from their mouth is copyrighted, which I dispute, but let's say, assuming for argument's sake, that they are correct, it doesn't matter. There is an exemption, okay? So don't let them tell you that it's copyrighted. They may think so, and they may give you academic freedom reasons; academic freedom has nothing to do with this whatsoever.

Another problem that I'm seeing is the elevation of the definition of disability itself to become a barrier to access. And, again, this is that antiquated notion of disability meaning incompetence. As we say in New York, it's almost as if people think if you're not in the gutter, you are not really disabled. And the two things that have become key in the definition of disability are a substantial limitation to a major life activity.

There has been a lot of jockeying about what constitutes a major life activity. The regulations list certain illustrative examples, such as breathing, caring for one's self, hearing, speaking, walking, that kind of thing. But the courts have found other major life activities, and they have upheld reading as a major life activity. They have upheld sleeping as a major life activity. There is one court that is well-known for saying that paying attention and concentrating is not a major life activity. I'd like to see how you do any of the other ones without the concentration or attention—learning, for example.

Some courts have agreed although I must say that the only court I know that has done it was in the *Bartlett* case, that test taking is a major life activity. Because today test taking is a critical activity, it can dramatically affect the course of your life. And soo can studying and spelling and other skill areas. So we are searching to articulate more major life activities that the courts will actually be able to adopt.

Recently, courts have found that concentration, attention, and thinking are major life activities. The Supreme Court upheld reproduction as a major life activity. As an aside, the other thing about the ADA is that the defendants have no shame whatsoever. They will argue anything. They don't embarrass easily. And in the *Bragdon* case, two years ago in the Supreme Court, the defense argued that reproduction was not a major life activity because you didn't do it in public. (laughter.) Now, I know people who have done that. (laughter)

But, you know, a lot of things you don't do in public are fairly major, like caring for one's self, sleeping. So the Supreme Court upheld the notion that the list in the regulations is only illustrative. Reproduction is a major activity, whether you choose to engage in it or whether you choose to engage in it in public, and opened the doors for other activities. Courts have since held that things like engaging in sexual activity, and communicating or interacting with others are major life activities.

Of course, these are not the primary major life activities you think about with regard to deafness, but deafness affects other major life activities besides hearing. It can affect speech. It can affect cognition to some extent, depending on the person's circumstances. It can certainly affect reading. It can certainly affect writing. So those are major life activities that people don't necessarily think of right off the bat, yet we in deafness understand to be affected by deafness.

The other issue that comes up here is substantial limitation. What is "substantially limiting," and what does that mean? The regulatory guidance tells us that a substantial limitation is a significant restriction in the condition, manner or duration under which the person with a disability performs major life activities, compared to the way most people do them. So that raises the question, what about all these people who are hard-of-hearing and wear hearing aids? Are they substantially limited? How substantial is substantial? How significant is the restriction? Every time you turn around a defendant has raised the bar or lowered the bar in the sense of how much more restricted one has to be than most people? And they apply, of course, their own sense of that, not based necessarily in any particular knowledge of the disability or what the true impact of that condition might be.

And so now defendants may say: Well, I don't dispute that you have a hearing loss, but I don't

see that it's really all that limiting for you. You know, you seem to be fine by me. You know, you seem to understand what I'm saying. And in the legislative history, the committee reports always refer to, as an example of a mitigating measure, an adaptive device, such as medication or hearing aids. Well, if a hearing aid is a mitigating measure, you use one, and it improves your hearing, how much can it improve your hearing that you'll still be considered to have a disability and still be protected by the law? These are questions we don't really know the answers to.

There is a case right now that has been petitioned to the Supreme Court on that. And I'm not sure how that's going to work out. But I think that one of the ways that this affects people who are Deaf and hard-of-hearing is this notion of well, you don't seem to have it so bad to me, so therefore you are not substantially limited. And there isn't really a good way, scientifically or legally, to split those hairs at this time. One of the things I think that will be developing out of the case law is some mechanism for analyzing and articulating what is a substantial limitation, but we really haven't arrived there yet.

One of the other problems which has arisen is morphing one disability into another. You are all looking at me saying, what does that mean? Well, we know that people are making a lot of these decisions based on ignorance. And we also know that they don't understand a lot of the terminology we use in this field. And I will give you a classic example. Last summer I represented a young deaf man who is a graduate of an excellent university, has a severe to profound hearing loss from the age of one, and wasn't diagnosed until he was three, therefore, he lost a lot of language learning years. He is very, very bright. He worked very hard. He has very attentive, educated, intelligent parents who were very supportive of him. He went through a major university with realtime reporting and extended time because he read very well, but very slowly, because he is duking it out with the language, with the double meanings, with the idioms, with the passive voice, with all of those language issues that are so hard for prelingually deaf people to grapple with.

He applied to take the LSAT, law school admissions test, with extended time. He said he needed the time because he read slowly, because of his deafness, and because his deafness affected the way he processed written language. And the LSAT then refused to provide this, because he is just deaf. As soon as he raised the word "processing," they insisted that he have an LD evaluation. They wanted him to have a neuropsychological assessment.

Now you know that the LSAT has been sued for doing this with students with CP. And one of the people that joined that suit later was a young man who was a quadriplegic, and they again didn't understand why he would read slowly. And they insisted that he needed to have neuropsychological evidence of slow reading.

With my client, I thought I'd show proof of impact, as a matter of good faith. I had him take a reading comprehension test, administered by an appropriately licensed clinician, timed and untimed. Timed, his comprehension was in the first percentile. The reading speed was obviously slow. With the extended time norms, he was at the 9th percentile. When she gave him all the time he needed, which was slightly more than double-time, he was in the 98th percentile of comprehension. So this is obviously a young man who can read, who certainly has the ability, but couldn't do it fast enough to take this test. That wasn't enough for them. I had to give them IEPs from third and fourth grade. I had letters from teachers that all his life, he read slowly. Well, who gives timed reading comprehension tests to deaf children? Anybody here know who gives deaf children timed reading comprehension tests? They don't. So all of the data from school was untimed anyway. So what was the point? Simply to harass, in my view.

They finally gave him time and a half, even though I substantiated a need for double-time. But since he had originally requested time and a half because he didn't know better, they gave him time and a half, one time only. And they made it clear that if he decided to take it again, they would once again challenge his documentation.

Now, this student does not have a neuropsychological problem. He is not learning disabled. The person who is the service provider at his college, who is very familiar with the student, is a licensed psychologist, who happens to be very familiar with learning disabilities. The student does not have a learning disability. But the LSAT insisted, apparently because the word "processing" was used, that it was now a neurological disability. And that is the way they are defending that other lawsuit I mentioned. But, again, it's based on *their* notions of what "pro-

cessing" means. And, of course, if you know anything about language, there are language processing issues that are language issues, not neurological issues. So we are not talking about learning disability here. We could be, and there certainly are students who are deaf and who have learning disabilities, but that clearly was not the case for this student.

So here we see then the student's disability being morphed into another disability, and then the determination to accommodate is based on an entity's own uninformed notions of what a learning disability is. They knew that this was a well-heeled parent that could sue, so maybe that's why they gave in. But we are seeing this happening again and again. We are seeing more of the testing agencies requiring additional documentation, documentation we can't get because we don't have the tools, or documentation that is really inappropriate for the disability at issue. And deaf students will become more susceptible to that type of challenge.

It's happening at all levels of standardized testing, not just the professional exams. If you have a student in a Community College and he wants to take an exam to be a fireman, a plumber, or anything else, those kinds of problems are going to arise.

Now I want to talk a bit about the recent cases. Many of you probably know about these cases; one is called *Sutton v. United Airlines*. One is called *Murphy v. United Parcel*. And the other is called *Albertson's v. Kirkingberg*. *Albertson's* is a grocery store. *Sutton* involved twins who had 20/200 vision correctable to 20/20. They were both pilots. They applied for a job with United Airlines as a global airline pilot. They were told their vision wasn't good enough. They were corrected to 20/20, but United wanted uncorrected vision of 20/100. The standard appears to have come from the fact that military pilots in World War II were required to have 20/100, and it's just evolved from there.

Obviously, there is a strong sense of a safety issue here. And when there is a safety issue, employers will be given a certain amount of deference. But there is also this question: was the ADA meant to cover people who had myopia that was correctable to 20/20? A lot of people didn't think that that was the population that was meant to be covered. On the other hand, there was this contradiction, as in are we going to deny you a job based on your uncorrected vision because — when corrected you don't have a disability?

And it went up to the Supreme Court, asking: When you make a determination whether someone has a disability, do you include the effect of a mitigating measure like eyeglasses, medication, hearing aids, or do you make that analysis without the glasses, without the hearing aid, without the medication? Now, the legislative history and all the regulations said you do it without the mitigating measures. Why? Well, there are some classic examples in the legislative history. People with epilepsy who are medicated and may not have had a seizure for years have been denied jobs, will continue to be denied jobs, based on people's assumptions that they might have a seizure. And they might. But, how likely is that? Is that really an imminent threat? Now, if someone with epilepsy takes their medication, according to the Supreme Court, and if they are just like everybody else, so to speak, just like the most people out there, the mythical average person with their medication, then they don't come under the protections of the ADA. And employers are now free to discriminate against them based on their misunderstandings, their ignorance, their fear, and their stereotypes about people with epilepsy. That is the sum total of the Supreme Court's decision in *Sutton*.

The same thing holds here for *Murphy* and *Albertson*. Murphy had high blood pressure, and the Albertsons plaintiff, Kirkingberg, had monocular vision. Kirkingberg was a truck driver. He passed the vision screening tests twice, and then he later failed the vision screening, and the defendant said 'oops, you can't see.' But, he had been driving for Albertsons for 18 months, doing just fine, but apparently now he couldn't. Again the court said if he does well enough, and drives well enough and hasn't substantiated any substantial limitations on the record, we can't determine that, *per se*, the use of a mitigating measure should not be considered. If he can see as well as other people by using subconscious brain adjustments, then he is not going to be found to have a disability.

In reality, in that case, the Court found that they just didn't have the record to support finding a disability. They used some wiggle words, and I like all those words I can get these days — to the effect that monocular individuals would ordinarily qualify under the ADA, but they would still need to demonstrate what limitations they had. So the law is forcing people with disabilities to really focus on the negative, focus on the prob-

lem, and focus on the limitations in a way that they may never have actually perceived them, because if you never didn't have that disability, you don't know how other people do things. So how do you articulate how substantial your limitation is when you don't know how substantial it is, because you never have not had that condition?

It puts plaintiffs in a very difficult position in terms of how to articulate their disability. And it also then encourages and forces people to look at their limitations and not look at their abilities, which the ADA was supposed to do. The ADA was supposed to make society focus on people's abilities and accommodate the disabilities so that the disabilities didn't become barriers to someone taking their rightful place in society.

On a factual basis, there were a lot of reasons why these cases could have gone the way they went. But the Supreme Court set up what I believe to be a very, very bad policy for future decision-making. And it has led to a number of quirky decisions. There is one case out of Texas where a guy with epilepsy who was having a seizure once a day and who also clearly needs a better doctor. Nevertheless the court said that since the seizures last about five seconds, that's not such a big deal. The rest of the time he does just fine. That is not a substantial limitation. The court also noted that it would have found for the plaintiff before the Supreme Court decisions, but now it couldn't. Well, that Judge has no real idea what he is talking about. Just think of the continual damage to this person's brain by seizing every day. It's wrong, and its tragic.

There is another case where a man with post-polio syndrome who used crutches and a brace, was found to have a substantial limitation. So that was a good analysis.

There was a recent case out of the fifth circuit, which is again located in and covers Texas, the Southwest, where a woman who is hard-of-hearing took a job as a telephone rep for a collections company. And that is the *Finical* case. If I remember the facts, when the trainer hooked into the conversation, it altered the signal so that the plaintiff wasn't able to hear well enough and she couldn't respond to the directions of the trainer. And one time I think they called to her down the hall, and she didn't hear them.

The company alleged both that she was not qualified and that she wasn't substantially limited. You know, the whole point from the defendant's perspective is to get you into this box where you're too disabled to be qualified, or you're not disabled enough to be substantially limited. Here, the plaintiff won on the district court level. They won in the Circuit Court level, and I understand that the employer is now appealing this to the Supreme Court.

So while people who are hard-of-hearing probably didn't think of themselves as being particularly vulnerable to these decisions about somebody wearing glasses because of myopia, you may very well be. We need to think, how do we articulate the effect of being hard-of-hearing to someone? What are the substantial impacts? A lot of people don't know how to quantify them or how to articulate them.

The other part of this issue says you are to be compared to most people or the average person. We find that defendants argue that if you got to veterinary or medical school, then you are not substantially limited in learning compared to the average person, because you obviously learned more than the average person who never gets to medical school. And what they don't look at is the part of the regulation that requires that you look at the condition, manner or duration in which that person learns; that they learn, but they learn in a significantly and fundamentally restricted manner.

And there are several courts taking that line. It's an easy analysis. It's a very attractive analysis; they don't have to think, and they don't have to learn anything about these disabilities to make those kinds of determinations. And we are seeing that happen again and again and again. Don't let anybody kid you. The standardized testing groups have all banded together. They are all sharing information. It's a huge network. In my veterinary case, they were willing to—they even admitted to me, this is not going to be a disability issue. This woman clearly has a disability. They couldn't believe how severely impaired this woman was, until they called up the National Board of Medical Examiners and got advice. Well, now of course she is not disabled at all. And they hired the routine expert witnesses, who come in to rediagnose in absentia and determine that you don't have a disability, and they hold a certain set of assumptions which most often are not true. This is a very heated battle, and it's going to be fought again and again and again. And eventually this issue of substantial limitation, what it really means, and

how we really analyze—that is going to go up to the Supreme Court.

The other thing that the defendants have been doing is raising constitutional challenges. Right now, if you're in the 8th circuit, and you work for or go to a state school, you have no rights to sue for money damages in federal court under the ADA. The ADA was unconstitutionally enacted in the 8th circuit and now, as of about 2 weeks ago, the 7th circuit as well. Why? Well, the argument is that the Congress did not have the right to exercise this power under the 14th amendment; that the powers under the 14th amendment to remediate violations of civil rights don't extend as far as the ADAs provisions.

There are issues about people with disabilities, such as, are they in fact a "suspect class?" Are they entitled to heightened or extra scrutiny? And from a defendant's point of view, with all the nonsense about reasonable accommodations that cost us money, we have to *do* something different. We have to actually do something to provide equal rights for people with disabilities, unlike other classes of people, such as people who are African American or people who are women or people who are religious minorities. All we have to do is refrain from discriminating against them. But we don't have to do anything else. It's a pocketbook issue.

So many of the states have now banded together to do this. Last year in the *Olmstead* case that was in front of the Supreme Court—that was the case about whether or not Georgia had to provide care to developmentally disabled people in the community or whether they could just put them in an institution, even though the people wanted to be located in the community, in the most integrated setting. A number of states joined in a brief defending the State of Georgia. And this past year there were two cases that the Supreme Court was taking on the constitutionality of the ADA; one out of the 8th circuit and one out of the 11th. One went one way and said the ADA was constitutional—that is the 11th circuit case from Florida, or *Kimel*. The other was *Alsbrook*, out of Arkansas. Well, they settled after they got to the Supreme Court, and there was a lot of pressure on the states by people with disabilities to not sign on to the Amicus briefs supporting this. And in New York the community was able to get the Attorney General to just not do anything, which was better than doing the wrong thing. Ultimately, these two cases settled. Its very unusual for cases to settle at the Supreme Court level.

Why might this have happened? Well, who is the Governor of Florida? Who is running for president? Whose signature piece of legislation was the ADA? President Bush. Do we really, in this election year, want the sons of President Bush, who pushed through the ADA, to challenge the constitutionality of the ADA? And the Republican Governor of Arkansas probably did not want to stick his foot in his mouth, either. So those cases settled.

Nevertheless, there are other cases. One out of the 11th circuit, called *Garrett*, is going up. And that raises similar employment-based ADA questions. One of the ways that the court makes the analysis is what kind of congressional hearings were there? And what was the evidence that Congress intended to do what it did? Well, the Court just struck down the Age Discrimination in Employment Act, as it applied to states. So if you are over 40 and you work for a state entity, you have no federal rights to be protected against discrimination on the basis of age at least not for money damages. End of discussion.

Supreme Court did away with them. Now, if your state law gives you those rights, that's fine. This is a very states-rights-oriented Supreme Court. They argued was that there really wasn't any evidence that Congress had looked at or had any evidence that the states were, in fact, guilty of age discrimination. They had evidence about employment in general, but not that state employers were guilty of discrimination. So, therefore, the Court found no basis for Congress decision.

Well, we certainly have plenty of evidence about the ADA and had plenty of hearings for years on the ADA. But how many of them were people who complained about discrimination on the part of the states? Well, if it's an employment case, state employers are included in many of the references to discriminatory practices. But you know the states do more than just hire people. The states provide services that are unique to states in many respects, for example transportation, access to voting, access to other state services, access to benefits, et cetera, et cetera, and so I think that there is a very real possibility that if the ADA is scrutinized as to whether it is constitutional as applied to the states, the Court has to look at areas other than employment discrimination and look at what else the states do and how states are,

themselves, unique entities with unique powers and unique responsibilities to all of their citizens, including citizens with disabilities.

On the other hand, they might split the baby in half and find that there wasn't enough evidence to show discrimination in employment by the states, but the states nevertheless have to comply with regard to other kinds of services. There are many different ways that the Court could go on that. But there are now four or five cases on their way up to the Supreme Court that are seeking certiorari, and we don't know how that will go. The Court will make a choice on constitutionality some time soon.

Now, 504 has a similar problem. If you remember, it was originally envisioned as an amendment to the Civil Rights Act and President Nixon vetoed it. So they sneaked it into the Rehab Act. And the problem with that is there's little or no record of hearings about all of these problems for 504. So, 504 has the same problem as age discrimination in that respect. But the thing that 504 has that the ADA doesn't have, that the age discrimination statute doesn't have is federal dollars. Under the spending clause, 504 could still survive, because once the Civil Rights Restoration Act was passed in 1987, the states then knew that if they took federal financial assistance, and those strings were attached, they waived their rights to be immune from suit in federal court by taking that money.

The Supreme Court has consistently upheld that knowing waiver with regard to obligations other than those under 504. So, my sense is that on a spending clause issue alone, 504 should survive. The 8th Circuit, however, has determined that the spending clause was superseded and nobody knew what an excessive burden this was going to be; therefore even under the spending clause, it's an unconstitutional exercise of Congress's authority.

They have also, in the 8th circuit, undone the IDEA as well. They are just really active, aren't they? But they are not activists. You know, the activist judges are only the liberals. The conservatives are not activists. They are not acting. They are undoing 30 years of law, but they are not acting. The case that held that Congress did not have the authority to enact the IDEA was recently reargued, and there has been no decision yet. So it's possible they could backtrack, because I think they may have taken a lot of flack for it.

But that's where we are as a country in terms of where we are going with the ADA. We are finding more and more challenges being mounted. We are finding challenges to whether or not you have a disability, and challenges to how disabled you really have to be. The thing that is eating away at the civil rights notion of disability is this notion that disabled people are incompetent. And if you are not incompetent enough, you'll not have protections and you'll have to fend for yourself, which is where we started off in the first place.

You may think I seem a little negative, and you'd be right. I am a little negative about where things are going.

So what to do? My first suggestion is educate, educate, educate—the public, your administration, your elected officials, your faculty. Write responsive articles, and write letters to the editor, not just about deafness, about other disabilities as well. Because hidden disabilities, in particular those that people don't see, are very much under attack and very vulnerable. And as you know, this has been an issue for people who are Deaf and hard-of-hearing all along, the notion that people don't realize what the situation is, that people just don't see the deafness so they don't pay attention to it and they don't understand.

Second, dispute the myth of mildness, which could go like this: 'You're hard-of-hearing, it's like a mild problem. I don't see it. It's not such a big deal.' Well, regarding this notion of substantial limitation, I have seen brief after brief after brief from defendants saying 'well, they only have a moderate disability. They need to be substantially limited,' inferring that substantial means severe. Well, when you look at the ADA as a whole, it clearly was never meant to mean you had to be severely disabled in order to be protected by the law. But that's the way defendants are arguing these cases. And defendants hire the big firms and spend the big bucks on a defense and are making a lot of inroads with that notion. So the concept of what is substantial is coming back to haunt us.

And, in fact, you know, I don't know how to quantify it precisely. I don't think that anyone does yet. But I envision defenses for example, where somebody has an 80 percent speech discrimination score. A defendant may argue that may not be substantial enough. You know why? Because it might be argued, the speech discrimination score should be below 50 percent in order to be substantial. I don't know. Maybe I am imag-

ining the worst. But someone, somewhere, will come up with that kind of purely quantitative, but ridiculous, analysis at some point and then you'll have to disprove it. How do you do that? Therefore, one of the things we have to think about is how to do that kind of thing, how to articulate the concept of substantial limitation. How do we establish a paradigm for that? I also suggest that we be careful about our sound bites. I recall, for example, a sound bite by King Jordan. Now, I'm not being critical of him; I worked with him for years, I love him dearly. He is a wonderful man. But one of the things he said when he became president of Gallaudet University was: "The only thing that deaf people can't do is hear." And the fact is that other people believe that to the extent that they think that means that deaf people don't have any problems reading or writing or any problem speechreading, because of course, King can speechread well. Deaf people don't have any problems with English proficiency.

Well in fact, people who are Deaf and hard-of-hearing do often have those problems, and those are things that they really need to have accommodated. And so, unfortunately, the advocacy statements we make to highlight our abilities will come back to haunt us. And I can tell you that from an evidentiary point of view, every single one of my clients who worked around their problem, got their families involved, got help, and didn't go to some third-party in authority, and make demands, but instead, worked out the arrangements themselves, has had that used against them. Okay? It's evidence against them. Defendants argue that plaintiffs are not really disabled if they didn't get accommodated formally from some higher being in authority.

Third, support research in establishing these functional impacts. We need to start thinking about major life activities, and we need to start thinking about how people read who are deaf—not just that they have comprehension difficulties, but how is it that they read? For example, a lot of deaf students that I know read very slowly, because they are tangling with the language in a different way. That doesn't mean they have a learning disability, but it means an impact of deafness may be slower reading. And some of the research that has been done, even with second language learners who are not deaf, is that when reading in the second language, there is always a delay of some sort, and it's always a slightly slower process. And these are hearing people who have second language proficiency. And so I think that we have to be aware of those kinds of impacts.

Ask things like: do your students have integrated, automatic skills in speaking, in reading, in writing? Are they able to write fluently or are they struggling with the writing process? As you know, a lot of students who are Deaf and hard-of-hearing struggle with these skills. Again, explore how to better articulate these things.

Fourth, support each other. One of the problems that inevitably arises is that we will have different views about things, and we sometimes criticize each other, or the running of each other's offices. In a speech last year, I recall using a quote from a German minister shortly after World War II, and the quote is basically this: First, they came for the socialists, but I wasn't a socialist so I didn't speak up. And then they came for the trade unionists, but I wasn't a trade unionist, so I didn't speak up. Then they came for the Jews, but I wasn't a Jew, so I didn't speak up. And then they came for me, but there was no one left to speak for me.

I think that we have to be very careful that we don't divide and conquer ourselves; that we support each other and that we support our efforts to learn more. We have a lot of people who are doing these kinds of jobs without the benefit of some of the education and training that others of us have. They are new to the field, they need to be supported and educated in a way that is collaborative and conducive to their learning. They shouldn't be trying to make these decisions based on a seat-of-the-pants analysis.

Fifth, support the development of interpreter standards, training and state licensing. I think that the states who are trying to get off easy by relying on the RID are making a big mistake. First of all, it's the state's responsibility. Second of all, the RID is a trade organization. And they have been running this certification process for years. They don't really have the resources in many respects. They have done a very good job in some ways. While there is certainly a lot of criticism of the RID and what it has done and how it has done it, the RID really shouldn't be doing it in the first place. The state should be doing it, whether or not they want to use the RID as a consultant to develop their programs, the states need to be doing this. We

need to have evaluation and we need to have training so that people can improve their skills on a continual, evolving basis.

We also have to be careful that we don't overpaper the field, in the sense that someone who may be qualified may not be certified on paper. This is one problem with the RID. For example, if you don't pay your dues, your certification is dropped. Well, that doesn't mean you lost your skill. That simply is a function of whether you paid your dues. Now, state licensing could do that as well, but the states generally don't drop you for a while. But you have to be careful with the RID. If you don't keep paying your dues, you're not going to be certified, and it will have nothing to do with whether you are a qualified interpreter. So that's one reason why I think we have to find different ways of determining whether someone is qualified and whether they are qualified for a particular position or assignment.

Finally, you have to be proud of what you do and the mission that you serve, and not apologize for that mission. I think a lot of times we feel very beleaguered and we equivocate on whether we are doing the right thing and whether we should be doing this or that — and gee, do we give the students too much? There are always a few students that will try to pull the wool over our eyes, but there is no real harm if we give most of them an inch more than we have to give them. That is education.

So I leave you with these words, illegitimae non corborundum est. Thats Latin for "don't let the bastards get you down." I thank you very much. And I'll be happy to take a few questions. (applause.)

Audience: My question is related to the settlement of cases compared to decisions being made. Over the past few years it seems to me that settlements are turning out better than the decisions are, supported by the point of view for people with disabilities. So that is what seems to be happening to me. But it seems like maybe we don't need the settlements, because case law is becoming more important.

Jo Anne Simon: Well, it's a very good point. When parties settle, they are the maker of their own bargain. And you can settle for things that you would not get from a court, certain kinds of remedies, for example.

About a year and a half ago I had a client who challenged a grade for very legitimate reasons. But there is no court in the country that is going to change a grade; its just not going to happen. They won't do it. But in settlement, I could get that grade changed to a pass, so that it didn't affect his grade point average. So you can do things in settlement that you will not get from the court in terms of remedies.

The other thing is that once a defendant has invested the money of going to trial, it gets its back up and it digs in its heels, and you are always taking a chance with the Judge. There are some wonderful judges out there. The greater percentage of federal judges, however, are still Reagan/Bush appointees and there are a lot of judges who simply don't understand this stuff and are not necessarily interested in learning about it. They have full dockets. They want to clear the cases. And if some defendant comes to them with what sounds like a reasonable argument, they may go that route.

I mean, in my case in Georgia, we had a third reader interviewed who read much more smoothly than the first two, and still made a lot of mistakes, but the other lawyer doesn't know the mistakes were made because they are medical terms. He would say well, 'this is a reasonable reader.' Well, the jury doesn't know what the medical terms are, either. So of course, I had a veterinarian listen to this videotape of the deposition, and he made 23 mistakes in 12 questions. I've now got evidence to say he really didn't do a good job. But he could sound like he is doing a good job. And courts are just as vulnerable to that kind of argument as other people.

The problem with settlements is that we are not guided by settlements. They are out of court. We don't know what happened. We don't know what kind of dirt somebody may have had on the other party that encouraged that settlement. And so we are stuck with case law. And most cases don't go to court.

Also, with the ADA, we have a lot of people filing cases pro se, meaning they are representing themselves, and they have no idea what they are doing. They make a lot of strategic mistakes and they also misunderstand the law, and so they are doomed from the beginning. And that is a problem. One study found that 92 percent of employment cases under the ADA have been lost by plaintiffs. And a great percentage of those are *pro* se plaintiffs.

Any other questions? There is a microphone over there.

Audience: You had mentioned about the one person who was taking the LSAT test, and he used the word "processing," and they thought—because of that—he was LD. What do you suggest a person would use in the future to avoid that? Instead of saying "processing," how should they address themselves?

Jo Anne Simon: I don't know. I mean, I'm trying to find the words myself. In that case, a neuropsychologist who had a deaf son who was very familiar with this young man wrote a four page letter about what she meant by the impact of deafness on language and how it affected reading. And they didn't buy it. They don't care. You know, they believe that their own thinking is more important than anybody who is an expert. And I don't really know what the best way to articulate that is.

I would like to try and find a different way of saying "processing." But, you know, I'm not sure how to explain to someone who has no background the difference between language processing and neuropsychological processing. And they are in different centers of the brain, and there are people who have articulated that. But a request for accommodations shouldn't have to get to that depth of technical information. It's ridiculous. You know, you shouldn't have to submit enough evidence for a request for accommodations that would be sufficient at trial. That is not what this was supposed to be about. So, you know, while I want to respond to these concerns, I also object to responding to these concerns at a certain level because I think it's outrageous. They keep raising the bar. So I'm happy to take any suggestions on how to articulate it.

Audience: It follows the same line. We have got several discussions going on about testing, extended time for deaf students throughout this conference. But in an age where we keep hearing documentation, documentation, documentation based on an audiogram, which is the documentation basically we use, are we able legally to provide extended time?

Jo Anne Simon: Of course. There is nothing in the law that says you can't provide extended time based on an audiogram or the student's word, for that matter. The law says nothing about it. The people who say this are the people who are trying to get all this excess documentation so they can weed out as many people as possible. That has basically been the position raised by a lot of the testing groups who are firmly wedded to the notion of standardized testing and standard people. And they don't want nonstandard people to be taking these tests or joining these fields. And I have heard some of these people say: 'If nobody else will keep them out, I will. So, there really is intent to discriminate.'

Don't believe any of the bologna you hear. Their function at some level (licensing exams) is to weed out to some extent, but not to weed out what it is they are weeding out. This focus on documentation, arises from having to provide test accommodations, and the people who are doing the provision of accommodations don't necessarily understand enough about the disability to make those judgment calls themselves. So they are going to rely on expert evidence, i.e., a report from someone, to help them make that determination.

Also, many of our students don't really know what they need depending on the circumstances. I always encourage trial and error. I know of a student with a panic disorder in the law school where I taught, and I wasn't responsible for the accommodations, but I was consulted about it. And of course one of the things that set off the panic was the time limit itself. So I suggested that they give him unlimited time and wean him back once he found out how long it took him to do a law school exam. Well, the law schools don't ever want to give unlimited time. It's heresy. And as it happened in practice, he used double-time. The school had given double-time to a lot of people, so it was no problem. But the student would get panicked by knowing it was double-time. So, we held his hand through the first year. And he was a very responsible young man; he never overdid it. He was grateful to have the opportunity to not have the time limit, to give him the opportunity to find out how long it would take him to do this, and he never abused that. He was happy to deal with a double-time limit after that point. So, you can negotiate this. You can use trial and error. The law encourages that. The law requires an interactive process and encourages discussion.

There are higher ed cases that talk about the nature of the interactive process. Accom-

modations are not just an edict from on high. We don't have to be wedded only to the Holy Grail of documentation. Certainly, with something like deafness, your documentation is an audiogram, which tells you nothing about how that person functions. And we don't generally do functional assessments for deafness. You might if you go to VR: they will give you certain types of functional tests for some kinds of training programs. Otherwise, we don't generally do that kind of assessment. And the law doesn't require you to do it.

It's really just people wanting to protect themselves, wanting guidance, and wanting to make sure they are not giving away the farm; whatever crisis would be engendered by giving away that farm, I'm not sure, but that is what is propelling a good deal of this problem.

Audience: I have a job for you.

Audience: Talk about tutoring. We are told that it's a personal service, and —

Jo Anne Simon: It is.

Audience: And our funding comes for accommodations. How can we get around this? Because in many cases students need tutoring in order to succeed in college. And it does speak to their limitations.

Jo Anne Simon: Unfortunately, when the Department of Education passed the regulation about what would be a personal service, and included tutoring, they didn't ask me. (chuckles.)

The only argument I think you could make and at this point, I think, is probably premature in terms of where we've evolved in our understanding of this and our acceptance of these things. That is the notion that if tutoring is provided to other students, real access to tutoring requires specialized tutoring. Access to tutoring — and this presupposes that there is a level of tutoring provided on campus to everybody — is not simply providing an interpreter for a deaf student. This is a common problem for students with learning disabilities as well.

For example, having an upper classman who is good in math is not the kind of tutor that a student with a learning disability or a deaf student needs, and therefore it's really not access, it's not really tutoring that is provided. In many cases, it's a waste of time.

So, I think you can argue that meaningful access requires additional training and somebody with knowledge of the disability. But, I don't think you'd win on that at this point in time. I think if a case like that went to court we would lose hands down. I don't think anybody is ready for it. Tutoring is key for a lot of students. It's the key access service that many students need. But who knows what they were thinking of when they promulgated that regulation. Probably they were not thinking of deaf students and they probably were not thinking of LD students. Also, many visually impaired students need tutoring, particularly in subjects like math. And they are not able to get it. I think it's a real gap in the regulatory mechanism. But, unfortunately, that is the regulation.

Okay. That's it. I see my time is up. (applause.) Thank you very much. (applause.)

Merri Pearson: Thank you, Jo Anne. We appreciate your comments. I think you will be here for awhile, so maybe we can get you individually if we need to. The next meeting has begun. So enjoy yourselves. We will see you at lunch or dinner tonight or something. Thanks. (End of session.)

Section II
Professional Development

Learning to Grow and Change: Using Action Learning to Inspire Effective Professional Development Within Deaf/Hard of Hearing Support Service Programs

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Abstract

It has become cliché to refer to the lightening speed of change happening in the field of postsecondary deaf/hard of hearing services. However, it is a fact that professional development is mandatory in order for the field to stay abreast with these ever-present changes.

This article will encourage deaf/hard of hearing program staff to rethink traditional approaches to professional education and explore some truths about how professionals really learn. The article will introduce strategies called action inquiry technologies that can be powerful tools based in the critical approach to professional development. One particular action inquiry technology, action learning, will be outlined and suggested as an educational strategy that could benefit postsecondary deaf/hard of hearing staff's professional growth.

Introduction

Peter Senge's *The Fifth Discipline* (1990) outlines the importance of an organization becoming a "learning organization," that is, becoming an organization that is open to transformation through shared vision and learning. In our field of postsecondary deaf/hard of hearing services, in order to move forward and continually grow to meet the needs of our customers, we must model ourselves after this learning organization concept. Therefore, it is important that the professional development activities offered to program staff foster the critical skills of visioning, personal growth, and taking risks.

Successful continuing professional education programs need to be grounded in a basic philosophical frame. A framework involves analyzing the profession's role in our society and establishing a philosophical perspective regarding the goals of the continuing professional education (CPE) program.

This paper will explore three philosopical frameworks of CPE and will then propose that professional learning for postsecondary deaf/hard of hearing staff members could be most effective when developed from a critical perspective. The discussion will primarily focus on two groups of professionals that comprise these program staffs: sign language interpreters and real-time captionists. The article will suggest that using action inquiry technologies and, in particular, action learning will provide not only effective CPE from the critical perspective, but also would begin to produce a new body of research and establish a repertoire of "best practices" for the benefit of this emerging profession.

The Functionalist View of Professions

A dominant perspective on a profession's place in society has been that professionals possess an expertise to solve well-defined problems. This expertise is drawn from a technical body of knowledge derived from scientific research. This functionalist viewpoint, sometimes coined the "Marcus Welby approach," sees the professions as service-oriented occupations that maintain the status quo (Cervero, 1988).

If, as the functionalist viewpoint supports, a profession possesses a fixed body of knowledge, then a professional education program must emphasize the mastery of this knowledge base. When designing a continuing profession education program to prepare for mastery of this knowledge base, the focus is on a traditional behaviorist approach to learning. The behaviorist approach focuses on ensuring "that learners attain previously defined learning objectives, many of which are specified in terms of clearly observable, behavioral outcomes" (Brookfield, 1986, p.202).

In his discussion of the functional framework's emphasis on technical expertise, Cervero (1988) discusses the issue of "whether educational programs should always be related in some fashion to the improvement of performance" (p. 25) and states that particularly those that employ professionals often strongly support this position. The postsecondary institutions that employ interpreters and captionists would most likely support this behaviorist approach because the institution must satisfy the legal mandate of providing services to students who are deaf that are delivered by "qualified" staff (ADA, 1990). This idea of "qualified" has traditionally been defined as a staff member's ability to score at a prescribed level on a performance test. Thus, continuing professional education offered to interpreters and captionists at postsecondary institutions is likely to be based in a behavioristic, performance-oriented perspective.

There is a general agreement that there is certainly a place for the behaviorist approach to learning in every professional education program (Cervero, 1988), but it is unfortunate that this behaviorist approach is often offered as the only learning method. Certainly, for example, if one counts the training opportunities for working sign language interpreters, a majority of the workshops and classes offered currently are geared towards the objectives of technical skill improvement. Among postsecondary sign language interpreters, there are certainly some core performance skills that every interpreter must possess, but the current offering of CPE programs often fails to address the other linguistic, institutional, and ethical issues that this group of professionals face.

Brookfield (1986) addresses this issue by explaining that the behaviorist paradigm "is seen most prominently in contexts where the objectives to be attained are unambiguous, where their attainment can be judged according to commonly agreed upon criteria of successful performance, and where a clear imbalance exists between teacher's and learner's area of expertise." (p. 202) In a developing profession without an established "best practices" such as postsecondary sign language interpreting, the objectives are often very ambiguous. There are no existing experts who are looked up to as possessing core knowledge, attitudes and skills, but instead, there are practitioners who are inventing modes of practice for themselves through their daily work.

Brookfield critiques the behaviorist approach by contending that "the paradigm (behaviorist) is far less suited to contexts in which learners are trying to make sense of their words, to develop self-insight, to scrutinize critically the assumptions underlying their thoughts and actions, or to interpret and to find meaning within their experience" (p. 203). This need to critically reflect and find meaning in their daily experiences is a crucial need of postsecondary interpreters and captionists. In order to effectively develop their profession, these professionals need to go beyond mere skill development to understand how to find their place in institutions that have understanding of their profession. In developing CPE for these postsecondary staff members, institutions must offer programs that go beyond the technical, behaviorist paradigm.

The Conflict View of Professions

The conflict viewpoint challenges the functionalist view that professionals possess a technical expertise that rightly affords them special status. The conflict viewpoint sees this technical expertise as putting professionals in "conflict with other groups in society for power, status, and money" (Cervero, 1988, p. 26). A further conflict perspective critique of the behaviorist approach is that the behaviorist model "ensures that knowledge is never created by, but rather transferred to the worker, ...management can use this learning design to instill within its employees the skills and attitudes necessary to maintain production, thus reproducing the capitalist ideology" (Vincere, 1994, p. 29). Proponents of the conflict viewpoint argue that, unlike the behaviorist focus on an individual's acquisition of skills, educational intervention must be at the social level. The conflict perspective views CPE programs as perpetu-

ating a system of oppression in that the programs continue to support the status quo and not strive towards affecting fundamental changes in our social structure.

Relating to postsecondary deaf/hard of hearing programs, issues of power and oppression are found on two levels: the power relationship between the deaf student and the interpreter or captionist and the power relationship between the interpreting or captioning professional and the postsecondary institution. In the interpreting profession, deaf consumers of interpreting services have been seen as a historically oppressed minority. Interpreters have been criticized because it has been perceived that they do not challenge the system of oppression but instead are often themselves part of the oppressive system (Baker-Shenk, 1986). Deaf students often enter postsecondary institutions with minimal self-advocacy skills as a result of paternalistic K - 12 educational systems. Often the student's interpreter is the only professional on campus with which the student has regular communication and the only person in the institution that has an understanding of the student's background.

Interpreting and captioning professions have very specific Code of Ethics detailing these professionals' roles in the college classroom. The Code of Ethics for interpreters dictates that interpreters "shall not counsel, advise, or interject personal opinion" (Solow, 1981, p. 81). The interpreter's role in a postsecondary institution can become quite confusing because the interpreter is often in the middle of situations where the deaf student is rendered powerless, but the interpreter feels constrained by the profession's code of ethics.

The sign language profession has historically been dominated by women (Humphrey, Alcorn, 1995). This characteristic of the profession contributes to power issues between the interpreters and their employing institutions in that these interpreters have not been traditionally socialized to maneuver through the political maze of the institutions. This group, being relative newcomers to postsecondary institutions, has not formed the coalitions necessary to affect the decision-making processes of the institutions (Bolman and Deal, 1991, p. 190). This lack of access to decision making limits these professionals ability to gain status from which they could affect policy changes affecting their daily practice.

Working from a conflict perspective, CPE for postsecondary deaf/hard of hearing professionals would focus on exploring these professional's ethical obligation towards changing the oppressive system for deaf students. CPE programs would also need to begin to address some of these power and status issues between the professionals and the institutions. A CPE program developed around the conflict perspective could assist the deaf/hard of hearing staff to better understand how many of the linguistic, ethical, and institutional issues faced by these staff members are a result of the unequal distribution of power in our society.

Bolman and Deal's exploration of the political framework discusses how conflict over power issues can also be used in positive ways. They state that "there is clearly a need for both organizations and individuals to develop constructive and positive ways to master organizational politics" (p.200). They also see conflict as "a means of creating visions and collective goals" (p. 206). A problem with a CPE program based solely on the negative side of power and conflict in an institution is that learning to use power in a constructive way can be easily overlooked.

Another problem with a CPE program that embraces only the conflict perspective is that while it can raise a professional's consciouseness about power issues, it often does not leave room for a critical analysis on some of the basic assumptions on which the conflict view is based. It is important that CPE programs for postsecondary deaf/hard of hearing staff not be developed solely around the ideas of power and control, but rather these ideas be one component of an approach that teaches the skills of critical analysis.

Also related to power and control in CPE programs is the question of who has the power to create and disseminate knowledge. The traditional gatekeepers of the research and instruction in professional education settings have been white males (Bailey, et al. 1994). Because postsecondary sign language interpreters, for example, do not have an established postsecondary interpreting practices knowledge base, it is very important that this group of traditionally female professionals understand the power and control issues around the creation and dissemination of professional knowledge. This paper will later suggest that action inquiry technologies can be educational strategies and at the same time allow the

practitioners to themselves control the development of a body of professional research.

The Critical View of Professions

While the functionalist and conflict views differ greatly in their perspective on how professionals should use their "expert knowledge, both viewpoints are alike in their acceptance that research-based knowledge can be used to solve well-formed problems (Cervero, 1988). The critical viewpoint does not accept this assumption that problems are well-formed but instead views professional problems as messy and unique. This viewpoint perceives the process from problem setting to problem solving as non-linear, often ambiguous, and most successfully undertaken by relying on the practitioner's own experiences and not on a formal, research-based knowledge.

Recent literature related to organization theory underscores the importance of an organization encouraging its members to develop the learning skills necessary to challenge accepted organization's assumptions and values. Senge (1990) emphasizes the importance of an organization becoming a "learning organization," a concept that he defines as "an organization that is continually expanding its capacity to create its future" (p.14). Bolman and Deal (1991) stress that members of an organization must learn to view issues through a variety of frameworks and that the organization must give the members the tools to match the correct frame to each situation (p.12). In order for organizations to achieve both these goals, CPE programs that teach the skills of critical reflection must be offered.

If postsecondary sign language interpreters and captionists are to transform their emerging professions into established professions on par with others found in postsecondary institutions, they must have access to CPE programs that foster these critical thinking skills. Especially for postsecondary sign language interpreters who are without an existing body of research, this critical approach to CPE is especially imperative in that it would allow these professionals opportunities to develop their analytical skills and at the same time take on responsibility for establishing a professional body of knowledge from which to further form their profession.

Action Inquiry Technologies

One approach to professional development that is grounded in the critical perspective is action inquiry technologies (AIT). AIT is an umbrella term for several related strategies that all have the common focus of combining practice and reflection (Brooks, Watkins, 1994). Some of the AIT related strategies are action learning, action reflective learning, action science, collaborative inquiry, participatory action research, and popular education (Brooks, Watkins, 1994).

The focus of the various AIT strategies are to allow "practitioners to work collectively in solving practice related problems but at the same time develop individual and group competence in the process of problem solving" (Tolbert, Reason, Heron, 1995, p.13).

Brooks and Watkins (1994) discuss the common characteristics of AIT that appear most often in the work of AIT researchers. These researchers found that action inquiry technologies are:

1) collaboratively conducted and participatory
2) enhance the overall learning capacity of individuals as they work to solve problems
3) focus on change and empowerment
4) create a body of research that comes from the "local" practice not "expert" knowledge

This paper will frame its discussion as to why AIT could provide effective CPE strategies for postsecondary deaf/hard of hearing program staff by exploring how each of the previously listed characteristics of AIT would be beneficial to this profession.

Action Inquiry Technologies are Collaboratively Conducted and Participatory

One practice common in many postsecondary deaf/hard of hearing programs is the amount of informal discussion around professional issues that takes place among staff members. Interpreters in particular, explain that this need to "debrief" often is due to the fact that during the interpreting process, an interpreter makes

constant linguistic and ethical choices without opportunity for feedback from either the information source, the class instructor, or the information target, the student (PIN, 1997).

AIT would be quite effective for these interpreting professionals because there already exists a tradition and culture of group reflection. In teaching the interpreters the skills involved in AIT, these informal "debriefing" sessions could be transformed into a more systematic form of critical reflection. In this way, AIT could be incorporated into the daily practice of the postsecondary deaf/hard of hearing program staffs.

The skills of working collaboratively that are promoted by AIT are skills that are vital to the success of any postsecondary work team. If these teams are to realize the goals of being able to navigate through the power structures of their institutions, establish a body of professional knowledge, and deal with the everyday challenges of their jobs, the team members must first be able to successfully work together as a cohesive team.

Action Inquiry Technologies Enhance the Overall Learning Capacity of Individuals as They Work to Solve Problems

Although practitioners in many professions traditionally experience collective learning through group reflection, what distinguishes AIT from mere group discussion and dialog is that while the group members are reflecting on specific problems, they are also reflecting on the learning/research process itself. By working on real work-related problems, group members are collaboratively solving problems and at the same time become better skilled in the process of problem solving (Brooks, Watkins, 1994).

Mezirow's theory of critical reflection differentiates between problem "posing" and problem "solving" (Brooks, Watkins, p.22). Many traditional professional educational activities focus on this problem solving, but AIT—with its roots in the critical perspective—focuses on the framing of the original problem. In the professional development of postsecondary sign language interpreters, this work on "setting the problem" could give structure to the common "debriefing" sessions explained previously. AIT could give postsecondary teams the tools with which to critically analyze the basic assumptions on which issues and problems are originally presented. By learning to focus their energies on the original setting of a problem, interpreters could avoid some of the pitfalls of assuming that all are viewing a problem from the same perspective.

AIT could also assist interpreting and captioning professionals in viewing their professional issues as learning opportunities. This more positive approach can foster a "learning organization" attitude such as supported by Senge.

Action Inquiry Technologies Focus on Change and Empowerment

Not only is AIT a process by which practitioners collaboratively reflect on and research their practice, but it is also a process that can assist practitioners in finding their place within their larger organization. As relative newcomers to postsecondary institutions, interpreters and captionists need to learn the skills of successfully navigating through their organization's traditional constraints.

AIT strategies have been described as cycles of action and research. This continuous nature of the technologies is quite a different approach to CPE as compared with traditional educational interventions. This ongoing, cyclical nature of AIT makes it a flexible learning method that is well suited to the ever-changing nature of postsecondary environments.

Reason and Heron (1995) explain that there is no exact methodology in developing AITs but that the ideas and method should be used as stimuli for the creative development of a form of collaborative inquiry which suits the purposes and opportunities of the situation. Unlike traditional CPE, the research encouraged by AIT promotes "reflection on action" as a basis for the generation and testing of informal theory (Brooks, Watkins, 1994, p.6). AIT could provide empowering experiences as the deaf/hard of hearing program professionals learn to value their own observations and informal theories as valid contributions to the profession.

Create a Body of Research that Comes from "Local" Practice not "Expert" Knowledge

As was discussed in relation to the conflict perspective, knowledge production and research should not remain solely in the hands of researchers and schol-

ars, but instead should be the responsibility of those who work in the daily practice (Brooks, Watkins, 1994). AIT is an especially useful CPE strategy because as it develops a professional's capacity for critical reflection, it also synthesizes a body of research that is situated in the professional's daily practice (Reason, Heron, 1995).

Because postsecondary sign language interpreters and captionists do not have a body of research on which to base their practice and because, at this time, there are few scholars who focus on this unique group of professionals, there is much merit in allowing the practitioners themselves to develop this body of knowledge. Part of the CPE process would need to focus on teaching interpreters and captionists the skills necessary to cultivate this body of research, but the benefits of a research tradition generated in the field make this a worthwhile goal of a CPE program. This body of research could have a positive influence on the systematic development of a more formalized practice for these emerging professionals.

Action Learning

Action Learning is one example of an action inquiry technology. Action Learning stresses small groups working on real problems and at the same time, focusing on what they are learning about themselves and their organizations. Many corporations around the world are currently using action learning to encourage organizational learning, improve self-awareness and self-confidence, and improve teamwork.

Action learning is composed of the following six distinct interactive components:

1. The set: A set is a group composed of four to eight members.
2. The facilitator
3. The problem: A set is structured around an issue or challenge that does not have one clear solution. It is important that set members work on true problems and not waste time trying to solve puzzles. Puzzles are contrasted to problems in that puzzles have one clear solution that already exists.
4. Insightful questioning (IQ): The art of asking good questions is at the heart of action learning. The purpose of IQ is to encourage fellow set members to question each other's assumptions that, if left untested, could block the discovery of truly creative solutions.
5. The commitment to learning. In an action learning set, personal and organizational learning are as important as solving a problem. .Stopping periodically for personal and group reflection as to new insights and changes in perspective, and also to analyze the group process in general, is a vital part of the action learning process.
6. The commitment to taking action. Every action learning set ends in the formation of an action plan. The action learning set will then meet again at a later date after set members have had opportunities to carry out this action plan. The success of the action plan is the basis for insightful questioning during the next action learning set. (Marquardt, 1999)

Action learning is cyclical; that is, it must take place over a period of time during which sets regularly meet to focus on a problem, frame and reframe the problem through insightful questioning, develop alternative solutions, and set-up action plans. The action plans will the be the basis for the next meeting during which the set will evaluate and question the action plan, identify new problems and the start the process again. Ultimately this cyclical process benefits an organization in that members are taught critical thinking skills, set members control their own learning, groups are strengthened, and problems are solved.

Summary

This paper has explored the functionalist, conflict, and critical viewpoints of professions and the implications of each viewpoint for the development of CPE programs. The paper specifically discussed each framework as to its implications for CPE programs for the new professions that are emerging in the area of postsecondary deaf/hard of hearing services. The critical paradigm was depicted as the most appropriate approach to CPE for deaf/hard of hearing program professionals, and action inquiry technologies were examined as educational strategies that effectively fit this critical framework. These technologies, and

specifically action learning, not only could teach the skills of collaboration and problem solving and provide a mechanism for empowerment, but also could provide the tools to research professional issues and establish a base of "best practices" on which to develop professional standards.

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Wearing Two Hats: Things Educational Interpreters Need to Know When They Tutor

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Abstract

The greatest demand for interpreters is in education; however, many graduates of interpreter training programs are not specifically prepared for educational interpreting and have little or no training in tutoring. This presentation will focus on the requirements, qualifications and skills needed by interpreters who tutor. Tulsa Community College, through PEC funding, has developed a tutoring course/workshop that addresses the basic theories, guidelines, principles and practices of tutoring. The presentation will examine learning styles and metacognitive theories as they apply to tutoring. Emphasis will be placed on preparing students for three types of tutoring sessions: studying content, preparing for a test, and writing a paper.

Course Development and Administrative Considerations

Identifying the Need

Tulsa Community College (TCC) has a relatively long history of program development for students who are deaf and hard of hearing. The Resource Center for the Deaf and Hard of Hearing (RCDHH) was established in 1979 and has subsequently grown to include eleven full time staff members serving approximately 40 students on four campuses. Our experience, like that of many other postsecondary programs that serve students who are deaf or hard of hearing, indicates that tutoring can make an enormous contribution to student success. Although programs differ in the ways in which they recruit tutors, many use interpreters as tutors at least some of the time. However, a highly qualified and skilled interpreter, even one who is familiar with the course material, may not be well prepared as a tutor. As a result, we decided to look into what we could do to help our interpreters enhance their tutoring skills.

Addressing the Need

Since Tulsa Community College has an interpreter preparation program in addition to RCDHH, it seemed natural to ask that a tutoring course be added to the curriculum. TCC has a fairly simple mechanism to allow courses to be added on a provisional basis, so we opted to go that route. However, we realized that many of our working interpreters would not be able to attend a formal, sixteen-week or even eight-week course. Therefore, we decided that any curriculum we recommended needed to be flexible enough to be offered as either a credit course or as a workshop, preferably one that earned continuing education units for the interpreters.

With those decisions made and with PEC's funding support, we turned our attention to staffing and curriculum design. To develop the curriculum, we contracted with Teres Brawner, a nationally certified interpreter and Tulsa area educator for the deaf with experience on both secondary and postsecondary levels.

Implementing the Solution

Our main goal for training interpreters as tutors was to improve the quality of our tutoring service. To further that goal we looked at several factors beyond the actual training itself. We checked our policies and procedures to make sure they were easy to understand and follow and that no unnecessary policies were in place. In addition, we evaluated our working conditions for tutors. We are very fortunate in that our department has a large open work space as well as several private tutoring rooms for part time tutors and a private office for each of our four full time interpreters. In addition, over the years we have found a number of ways to obtain free or low cost textbooks for interpreters and tutors; we checked to make sure these methods were working as well as we thought they were. We also checked to make sure our part time tutors have access to the Learning Resources Center and to the computer labs.

Evaluating the Solution

Since Tutoring for Fundamentals is a new curriculum, we do not yet have significant feedback on it. Our plan is to use the college's usual course and workshop evaluations in order to obtain information on tutors' perceptions of the curriculum. However, we believe that a more interesting and important side of the equation will be to determine whether or not the training makes a difference in student performance. In other words, we want to know if tutors who receive this training really are more effective than tutors who do not. We hope the evaluations we ask the students to complete on their tutors will give us some insight into this.

Tutoring Fundamentals Curriculum

In response to the established need for training in tutoring, TCC, with PEC, contracted with Teres Brawner (MS, CI & CT, CED), an experienced educator on both the secondary and postsecondary levels, to prepare a curriculum to meet the needs we identified. We asked that the curriculum be flexible to be used as three hour for credit course, as an independent study, or as a workshop. Ms. Brawner developed a curriculum entitled "Tutoring Fundamentals: A Course for Potential Tutors." Tutoring Fundamentals is divided into six units of study: Learning Styles, Metacognition, Writing and Reading, Tutoring Theory, Tutoring Practice, and Tutoring Resources.

Unit One: Learning Styles

A quick Internet search for "learning styles" yields a variety of instruments from very sophisticated tests which require training to administer to snappy pop-psychology questionnaires. We needed an instrument that was relatively reliable but simple and inexpensive to work with so our tutors could administer it themselves at a time and place that was convenient to them and to their students. In addition, we needed it to be self-scoring and able to yield scores that would be readily understandable by our tutors and students. We wanted something that a tutor and student could sit down with together and use to work out learning strategies for a specific course.

Tutoring Fundamentals recommends the VARK, an on-line instrument developed by Neil Fleming and Charles C. Bonwell. Because the VARK is available free at <www.active-learning-site.com>, tutors and students do not need our permission or help to use it, may use it as many times as they feel is appropriate, and can take it whenever and wherever they have Internet access. Administering the inventory is simple and straightforward, and the Active Learning web site includes a variety of tips and strategies for using the results in real life learning situations. In addition, the VARK is specifically designed to initiate the kind of discussion about learning that we hoped to encourage between students and tutors.

Unit Two: Metacognition

Conversation between a tutor and a student about the student's personal learning process can be an important step toward developing the metacognitive awareness that so many students lack. Tutoring Fundamentals gives tutors specific questions to ask students to help them think about the ways in which they think and learn. One of the biggest frustrations tutors report is that students misrepresent their level of understanding. We found that students themselves are often unaware that they do not fully understand material that has been presented to them. As a result, tutors have difficulty evalu-

ating the effectiveness of tutoring strategies until a test or graded project reveals the lack of mastery. Responding to simple questions such as, "How do you know if you understand something?" can spur a student to a new level of metacognitive awareness and help circumvent this kind of unnecessary poor result. In addition, Tutoring Fundamentals offers strategies to help students improve their ability to break an assignment into smaller tasks, to attack each task effectively, and to monitor their own progress. This curriculum shows tutors ways to model these strategies and to discuss them with students so the students can eventually learn to use the strategies independently. Finally, the curriculum helps tutors work with students to link prior knowledge and experience to new knowledge in order to formulate a context for further learning and personal growth.

Unit Three: Writing and Reading

Although Tutoring Fundamentals was primarily developed with students in interpreter preparation courses in mind, we recognize that other tutors also work with our students. As a result, the curriculum includes a brief treatment of the effects of early language deprivation, age of onset, and level of hearing loss on reading and writing. Students in interpreter preparation courses most likely have already been exposed to this information, but for other tutors the information may be unfamiliar.

In addition, the curriculum discusses basic strategies for talking about writing, for critiquing writing fairly but sensitively, and for working with instructors of writing courses and other courses in which writing is important. Potential tutors discuss various factors that may contribute to a deaf or hard of hearing student's discomfort with writing and academic factors that may help determine the kind and level of intervention appropriate for the class. For example, writing instructors may need to see the student's rough draft in order to diagnose and prescribe remediation. In these courses, the tutor probably needs to work closely under the instructor's guidance. However, many other instructors are not particularly interested in the student's writing difficulties and evaluate papers solely on content. In these courses, students and tutors may be able to work back and forth between signing and writing to get the content down on paper.

The bulk of this part of the curriculum uses a wide variety of actual student writing samples for practice in determining how much intervention is appropriate, identifying errors, and working with students to correct errors.

Unit Four: Tutoring Theory

This unit discusses expectations which tutors and students bring into the tutoring session. In doing so, it establishes a minimal threshold of responsibility on both sides. When both sides meet this threshold, the tutoring session is much more likely to be successful than if one or both sides fall short. Tutors should be able to expect that students will seek help before they become hopelessly confused, will schedule reasonable time to accomplish academic tasks, and will make small accommodations in communication styles, if necessary to make the session run smoothly. On the other hand, students should be able to expect that tutors know the material, are available at times which meet the students' own schedule, and will make small accommodations in communications styles if necessary to make the session run smoothly.

In the ideal tutoring session, the student takes responsibility for his or her learning. He or she should arrive with specific concerns and with basic background knowledge. Moreover, the student should have made an independent attempt to resolve the identified concern. Additional characteristics of the ideal tutoring sessions are clear communication, a well prepared tutor, realistic expectations on what can be accomplished in a single session, and satisfaction with the outcome on both sides.

At the beginning of a student's academic career, many tutoring sessions will probably be far from ideal. The tutor may need to assume a high level of responsibility for the planning and outcome of each tutoring session. However, as the student progresses academically, he or she should begin to assume more and more responsibility until finally many tutoring sessions approach the ideal with the student assuming all or most of the responsibility for determining the course of each session.

Unit Five: Tutoring Practice

Tutoring Fundamentals identifies three basic types of tutoring sessions and discusses strategies for achieving good outcomes for each type. The types are studying for content, preparing for a test, and writing a paper. The curriculum discusses ways in which to tap into learning styles, stimulate metacognition, and move students toward accepting more responsibility for their own learning in the course of each type of session.

For example, during a session in which the student needs to study content, the tutor may ask the student to briefly recall learning strategies most appropriate for his or her learning style and help the student plan a strategy for the task at hand. The tutor may use the metacognition questions to help the student discover his or her level of background knowledge and consider ways in which the information at hand may be useful or important. Finally, the tutor may model SQ3R or another basic study method for the first part of the lesson and gradually encourage the student to take over more and more responsibility for taking and organizing reading notes, compiling vocabulary lists, developing study guides and other study aids, and so on.

Unit Six: Tutoring Resources

The final unit of the course is a listing of print and on-line resources for tutors. This list will require frequent updating as new materials are continually published both in print and on-line.

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Other Duties Not Yet Assigned . . . Urban and Rural Interpreters Taking the Initiative

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Abstract

In today's budget-driven institutions, a change in Deaf and hard of hearing student populations can mean the loss of a job. When interpreting hours decline, interpreters in educational settings are assigned a variety of tasks that often are mundane and unrelated to our profession. Repetitive motion injury can prevent interpreters from interpreting on a temporary or permanent basis. To provide greater job security and increase opportunities to improve their skill and knowledge in a variety of areas, we suggest that interpreters become pro-active partners in their offices and recommend to their coordinators or directors other activities which they can coordinate, organize, and implement that will improve their Deaf and Hard of Hearing programs or the Disability Services Program.

Lisa and Gerri are both interpreter coordinators at very different institutions: Lisa works at a small community college in Cheyenne, Wyoming. For nine years, Gerri worked for both a large university and a large college in the Denver metropolitan area. Both positions have evolved a great deal over the course of their employment, largely due to their actively requesting additions to their responsibilities that fit with their personal and professional goals.

Changing role of interpreters. . . why??

Working in a budget-driven environment may drastically affect the number of employees retained when the number of students declines. This is especially true for interpreters when there is a change in the population of Deaf/Hard of Hearing (D/HH) students. Post-secondary institutions often consolidate duties to make efficient use of all available staff.

Interpreters, hoping to increase their job security, should consider further professional development. They can enhance not only their interpreting skills, but additional training can help them achieve a variety of personal and professional goals. Types of additional training will be discussed further in this presentation.

What 'other duties' are we assigned?

To "enhance" job security at the post-secondary level, interpreters might volunteer to assist in the Disability Services Office during downtime. However, without training for more advanced duties, interpreters are frequently assigned menial tasks around the office, i.e. the "yucky ones", such as: copying, filing, grading papers, running errands, shredding papers, an-

swering phones. These tasks may keep an interpreter busy while ingratiating themselves to the office staff; however, these are probably not the skills they want to develop and be permanently assigned in the event the D/HH student population experiences a serious decline.

What 'other duties' do we WANT to be assigned?

Preferably, interpreters seek duties that are more interesting and use the vast skills that all interpreters inherently possess or can acquire with training. Institutions may well benefit from using interpreters to:

- Tutor or assist with coordinating a tutoring program for D/HH, as well as students with disabilities,
- Develop & present faculty /staff in-service workshops on working with D/HH students, Interpreters, Notetakers, Captionists, and Assistive Listening Devices,
- Develop a faculty/staff handbook on working with D/HH students and interpreters through your office,
- Develop and present workshops for community members and employers involving ADA as related to Deaf individuals,
- Work with junior high and high schools or community resources to recruit more D/HH students,
- Develop transition and/or summer preparation programs for D/HH high school students,
- Coordinate a workshop for area interpreters,
- Develop and coordinate an interpreter mentor program on your campus or in your area,
- Coordinate a workshop for D/HH students to develop skills such as: leadership, job interviewing, making presentations and working with interpreters prior to formal presentation, requesting interpreters, coordinating assistive listening devices, teaching sign language classes, and providing direct services or training for the use of C-Print in the classroom.

Moving Beyond D/HH Services

To investigate these options further, what is the next step? Initially, it is advisable for interpreters to seek additional training from the members of the office staff and become involved with services for students with other disabilities. From office personnel interpreters can learn to coordinate accommodations and provide assistance with notetaking / C-Print services, test accommodations, and books on tape. If interpreters have computer experience, they can be trained in the use and benefits of adaptive computer technology. These newly acquired skills can be made use of to train students with disabilities.

Further, because of their experience in working with faculty and students, interpreters can use their skills to advocate to faculty on behalf of students with disabilities and present faculty and staff workshops regarding accommodations for all students with disabilities.

When an interpreter shows interest and initiative, acquires proper training, and can secure support from the administration, hourly interpreters may find opportunities for advancement within the department. An hourly interpreter can be promoted to staff interpreter with other duties as assigned, advance to Interpreter Coordinator, Disability Specialist, Associate Director of Disability Services Office, Director of Disability Services Office, Dean of the College, and finally retire with full pension and benefits! With proper training and initiative, the personal and professional goals are limitless.

How do we become qualified for those 'other duties'?

A college education is essential in today's global market. Most postsecondary institutions require interpreters to have at least an associate's degree in interpreting. For further advancement it is advisable to have a bachelor's degree in Interpreting, Deaf Studies, Human Services, Education, or a related field. For administrative positions, interpreters should seek a masters degree in Public Administration, Education, Interpreting, Leadership Training, or Counseling. A doctoral degree may not be necessary unless you wish to become

a Professor, Dean, or Executive Director of a post-secondary institution.

There are also many resources available in the community from which to gain additional skills, knowledge and training in various services for persons with disabilities. PEPNet Conferences/Workshops and the National and Local Registry of Interpreters for the Deaf (RID) Workshops provide training in the areas of interpreting and Deaf services. The Association on Higher Education and Disability (AHEAD) and ADA seminars provide training in all post-secondary services for students with disabilities. "Closing the Gap" and the CSUN Assistive Technology Conference provide training in adaptive computer technology. For business-oriented advancement, there are organizations such as Career Track who offer seminars to improve administrative/supervisory skills.

How do we get our supervisors to buy in?

Administrators are unlikely to ask interpreters if the interpreters are interested in career advancement. Therefore, as interpreters we must take the initiative! Make yourself known (not notorious!). Volunteer to help, even if it means doing the menial, "yucky" tasks. Don't wait around to be asked. JUST DO IT! Make yourself indispensable. Show more initiative. If you see a gap, fill it! Make your supervisor aware that you are continuing your education, so when you become indispensable, and the program flourishes, your name will be first on the list when they discuss hiring another permanent administrator.

Presenting Your Plan

If a position or program does not exist which meets your needs, look for missing components in your program, investigate what works in other programs, develop a plan and write a proposal. Make sure you have all the details well thought out. Be sure to include the cost/benefit analysis. Then take the plan to the supervisor. Sell yourself and your ideas. Be ready, willing, and able to implement your plan.

You are on your way!

It is easier for a supervisor to implement a new program, if the details are taken care of and the staff is available. Make sure the details come from you and your supervisor knows you are the right person to execute the plan.

More Questions? Give us a call or contact us!

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Section III
Access to Programs and Services

EnVision: Connecting Students Coast-to-Coast and Face-to-Face

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The Rocky Mountain Connections Center (RMCC), a hub of WROCC, housed at Salt Lake Community College, set connecting Deaf and Hard of Hearing postsecondary students in rural areas as one of our primary objectives within our grant cycle. Postsecondary institutions and population centers in the district we serve, including Montana, Wyoming, Nevada and Utah, are spread out geographically. Oftentimes, Deaf and Hard of Hearing students exist in isolation at their college or university campus and sometimes within their towns. Nationally, and in our district, Deaf students often do not stay through to completion of their programs. We know from talking to many of these students that they feel socially and academically isolated, even when provided with accommodations. Many of these same students, as with their hearing counterparts, are non-traditional students, balancing school and supporting families, and they are often not in a position to move to population centers with greater numbers of Deaf and Hard of Hearing students to satisfy their social and academic needs. In looking for ways to connect students across these distances, we found a new technology, known as desktop video conferencing (DVC) which was developing into a way to connect students, face-to-face across distance, using whatever communication methods they preferred.

Within the last year, DVC cutting-edge technology has greatly improved in terms of its ability to keep up with individuals who are signing in real time. The best system we could find in terms of speed and clarity for signing purposes was EnVision, a system designed by Sorenson Vision, Inc. This system consists of hardware and software which, when installed on a reasonably current PC with Internet or phone access, can allow people to see and hear each other in real time. In addition, this system allows collaboration by sharing application files, such as word processed documents, web page, e-mail, or graphics, while talking (or signing) to each other.

There were three reasons that we chose to use the EnVision product: 1) Price and practicality; 2) quality; and 3) our relationship with the Sorenson Company.

In terms of price and practicality, EnVision costs a great deal less than the competition, and it uses a standard PC/Windows platform. Some of the systems that we looked at were more than twice as expensive, and some of them required purchasing different platforms. The quality of EnVision was higher because Sorenson has invented a unique compression technology, which allows for sufficient speed and clarity under ordinary conditions to sign naturally. Many other vendors have not looked at the needs of Deaf individuals, and since hearing people rely more on the sound, they have not felt that slow-speed video was a concern for most of their business clients. Finally, we had previously purchased the prototype of EnVision, called VisionLink, from Sorenson Vision. VisionLink was a pilot video-conferencing unit (video only) made specifically for Deaf and Hard of Hearing individuals. In work-

ing with Sorenson, we found a "Deaf friendly" attitude in their staff who understand the needs of our students. EnVision's speed was developed with Deaf users in mind. Additionally, Sorenson is a local Utah company with a demonstrated history of responsiveness to our needs as they have incorporated much of our input in EnVision's development.

EnVision has limitations. It does not have television or movie quality, which comes across the screen at 30 frames per second. EnVision comes at 15 frames per second, which is still faster than the human eye processes. This is to allow data sharing to take place in the same bandwidth while being able to continue to talk. Some postsecondary institutions are using satellite systems fed into ISDN lines with extremely high picture quality; however, they have to pay extraordinarily high fees per minute. We are not suggesting that these could be replaced, because they are often used for multipoint teaching and training purposes. However, if contact from one person to another is desired, EnVision use is virtually free after initial purchase. There is no additional bandwidth cost except the standard Internet Service Provider fees or phone lines, which are likely already in place. Most college and university computers are already tied to a LAN, and EnVision works well through LANs. The result is that institutions can have students or others using this system at the campuses where it is installed without any fee for use. This is not yet perfect technology, and Internet traffic can sometimes interfere with quality; however, generally our experience with the quality has been good. In addition, EnVision complies with the H.323 standard for desktop videoconferencing units, so people with other types of systems can communicate with those using EnVision; however, data sharing may not work and picture quality and speed may vary.

There are a number of companies developing multipoint technology. This is not yet available with EnVision, except with an application where multiple users can take turns. This is still limited, but engineers are working on developing multipoint multiuser capabilities.

RMCC has placed 15 EnVision units at various sites within our district, and there are plans to place additional units soon.

Applications of Desktop Videoconferencing with Deafness in Postsecondary Education

We have experimented with a variety of uses of EnVision serving three general postsecondary groups: 1) Deaf and Hard of Hearing Students; 2) Interpreters or Transliterators, and 3) Administrators, Faculty and Staff. Some of the uses we have found are as follows:

Deaf and Hard of Hearing Students

- Establish student-to-student mentoring over distance
- Connect students to academic tutoring, especially for English, using ASL
- Promote social connections with students at other colleges to end isolation
- Provide distance instruction and tutoring
- Provide means for job interviews
- Provide means for interviews with potential colleges or universities prior to selection and transfer
- Provide remote video interpreting whether there are insufficient numbers of qualified interpreters (still in experimental stages)

We have had some interesting successes connecting Deaf and Hard of Hearing students. When we first demonstrated EnVision at our annual Connections Student Leadership Conference, Deaf students were really excited with the technology. However, we did not realize the potential benefits for Hard of Hearing students. One Hard of Hearing student in attendance was able to hear through the headset, and when she expressed her excitement, the other students cheered for her. Since, we have tested EnVision plugging an FM loop directly into EnVision with the T-Coil setting on hearing aids, and this seems to work well. In addition, having the visual face-to-face contact, rather than depending upon a phone, seems to work better for Hard of Hearing individuals. The "chat" box allows individuals to type to each other and to get clarification if any confusion exists.

We have had an interesting experimental project where several Salt Lake Community College students, taking the Deaf English course, were partnered with Sheridan College Interpreter Training students in their practicum semester prior to graduation. Sheridan, Wyoming, has very few Deaf individuals, and many of their interpreter training students had not yet met a Deaf individual. Through EnVision, the Deaf students in Salt Lake tutored the interpreting students at practicum sites in Sheridan and Cheyenne Wyoming, helping them become comfortable with Deaf individuals, Deaf culture, and helping them improve their ASL and interpreting skills. Some of the Deaf students took this very seriously, even designing interpreting experiences for the students. In return, the Sheridan students tutored the Deaf students with English vocabulary and idioms they were studying. This was a real "win-win" experience. Carly Flagg, director of the Interpreter Training Program at Sheridan College, was pleased that she could use EnVision to stay in touch with her practicum students placed in different towns, and the students were able to stay in touch with each other and share their experiences and concerns. Students additionally had an assignment to interview a certified working interpreter, and they conducted these out of state interviews through EnVision.

Other experiences included having Deaf students receive subject tutoring from a tutor in a different college or in a different state. A Utah Deaf student interviewed a Wyoming Deaf student majoring in the same area as the class the students were taking for a college project and videotaped it. A Deaf student in Montana had a job interview with a company in New York, and the same student received some assistance with course work from a peer in New Jersey. Another Deaf student in Montana received tutoring assistance with some college papers from the Deaf English teacher in Salt Lake. For having the network in place only five months (one semester), this shows real promise.

RMCC has experimented some with remote interpreting, and we believe that once the new version of EnVision is released, allowing for EnVision use with phone lines and portable computers (expected around Spring 2001), that this will become a reality. Communication Services for the Deaf in Texas is providing video relay interpreting services commercially right now using EnVision. This service works on the same principle as a telephone relay service: a person calls in from EnVision and they either relay a phone call, or they may relay interpret a staff meeting or other type of contact for the Deaf individual. For postsecondary purposes, there are a number of rural areas where insufficient numbers of qualified interpreters exist. This may be a way to ease the shortages, drawing upon the resources of larger colleges to ensure access to the classroom, no matter which college the student is attending. DVC may also provide more opportunities for interpreters to work, utilizing their available hours between classes where they work. It might also eventually provide better quality in interpreting, allowing students access to better qualified interpreters with subject expertise, from remote locations.

Interpreters/Transliterators

- Establish a professional postsecondary network
- Provide assistance with technical signs
- Evaluate, train, and mentor interpreters
- Create a distance mentorship network
- Provide distance education opportunities
- Provide remote video interpreting opportunities

There have been two mentorships going on that we know about between Montana and Utah. There have also been some consultations between institutions on technical signs. We hope to really utilize this more to connect interpreters.

Administrators, Faculty & Staff

- Provide face-to-face training in all aspects of coordinating services for Deaf and Hard of Hearing (D/HH) students
- Provide equal access to Deaf, Hard of Hearing, and Hearing administrators for networking and training
- Establish networks of service coordinators for Deaf and Hard of Hearing students
- Allow collaboration through sharing and discussing in real time

- Provide resource sharing alternatives to enhance access where resources are limited
- Allow advisors to do intakes/interviews for remote distance learning sites or extension campuses

Administrators, faculty, and staff serving Deaf and Hard of Hearing can have improved access to one another, meeting communication needs. In addition, the data sharing feature in EnVision is a powerful tool. This article has been written in collaboration across states through EnVision, as well as the PowerPoint presentation used at PEPNet. Two faculty colleagues, one in Colorado Springs and one in Salt Lake, recently collaborated on a conference proposal and agenda over EnVision. Web pages can be developed collaboratively over EnVision. Training on use of EnVision and other technical assistance has been given over EnVision. Utah State University (USU) has been using EnVision to do intake interviews and advising for their distance learning sites and extension campuses, some of which are over 200 miles from the main campus in remote areas. These represent a great savings of time and travel. Diane Hardman, Director for the USU Disability Resource Center, reports that this is working so much better than trying to conduct these interviews through phone calls, TTY, or through an interpreter. The communication is much clearer, and it greatly reduces costs for these contacts. Institutions providing extension courses or distance learning courses for students in prison might benefit from using this type of system to discuss accommodations with inmate students.

There have been challenges, of course. This is cutting edge technology, and sometimes we find that we have computer software conflicts, a particular computer that has glitches, and occasionally we run into problems with campus Internet firewalls. Technology keeps changing, and it takes time to get a new release of EnVision to fit the new operating systems and platforms. For example, when EnVision was released, it worked on Windows 95/98 platforms, but not NT. However, most campuses we dealt with had NT. When we got the release for NT, Windows 2000 was released. However, the first release of Windows 2000 has some inherent bugs, so meeting that challenge also takes time. Sorenson expects to have EnVision compatible with Windows 2000 by Spring of 2001.

Another challenge has to do with many colleges having policies prohibiting having anyone open the computer who is not with their IT department. Because disability service offices are often not on the "high priority" list, institutions have to wait for their technicians to install the system. We still have one institution who has had a unit for seven months that is not yet installed, awaiting technical support from their campus. However, Sorenson plans to release a "plug and play" version in Spring 2001 that will be less reliant on campus technical support. This should overcome that particular difficulty.

One additional challenge that is more difficult to overcome is the general attitude and fear of using this technology. It sometimes takes students, faculty, staff, and administrators time to "warm up" to the idea of using DVC. However, once they do, most love it. The EnVision interface is quite user-friendly and easy to learn. However, we depend upon the Internet, and sometimes traffic interferes a bit. Sometimes fixing this is easy, and sometimes the call needs to be placed again later. This takes a little patience, but generally contacts go smoothly. The best way to overcome this challenge is throughеducation and developing flexible attitudes.

How We "EnVision" the Future

The Rocky Mountain Connection Center hopes to see an active network of users within PEPNet. This technology is only as good as the contacts available on the other end. We hope to see many Deaf and Hard of Hearing students connecting through this network, as well as professionals involved in postsecondary education.

Sorenson has established a meeting place online, ils.DeafOnline.com, which is accessed through the EnVision "Call Center." Through this, we can see who is online and call each other. It is hoped that the Deaf Community will start coming online and setting the trend. It is possible that in the future, desktop video conferencing could replace less satisfactory technology, such as TTYs. The RMCC staff hope that technology companies

will increasingly look to the needs of those who need visual access to language to communicate and pioneer new trends in connecting people who have historically lived or worked in isolation. We believe that this technology is just a beginning which will become a springboard to exciting technologies ahead.

For further information on how to join the DeafOnline network, please see our website, <www.slcc.edu/connections> and click on "EnVision Project," or contact the authors at the e-mail addresses listed below:

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Innovations in Postsecondary Education and Training: The Case for Community-Based Rehabilitation Centers[1]

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Abstract

This paper presents the results of a national assessment of the technical assistance needs of community-based rehabilitation centers that provide employment services to persons who are deaf or hard of hearing. The study was designed to parallel the Postsecondary Educational Program Net-work's (PEPNet) national needs assessment of college programs providing training to persons who are deaf or hard of hearing. The purpose of the study was to identify and prioritize the types of resources, support, and technical assistance required to enhance services delivered by community-based agencies to persons who are deaf or hard of hearing. Recommendations for future technical assistance strategies based on the study are presented.

Most service providers who work in rehabilitation or postsecondary training understand that the world of work has significantly changed. The 21st century is here! Productivity is up, the stock market is up, and the workplace has exploded with new technology that demands a new breed of future worker. Workers must be skilled in many areas: literacy, adaptability and problem solving, communication and teamwork, leadership, and technological sophistication.

Many of these areas present major challenges for deaf and hard of hearing persons preparing for a career. Reading and writing are primary in that only 15 percent of deaf students reads at a 6th grade level. Manufacturing and physical labor jobs, areas where this population has been traditionally successful, are no longer readily available. In fact, many of these jobs have been replaced by technology. People need to be adaptive and respond to these changes as well as become skilled in problem solving which includes communication and team work. Leadership skills and the ability to be self-directed is important. Deaf and hard of hearing workers have to be prepared to succeed in this rapidly changing workplace.

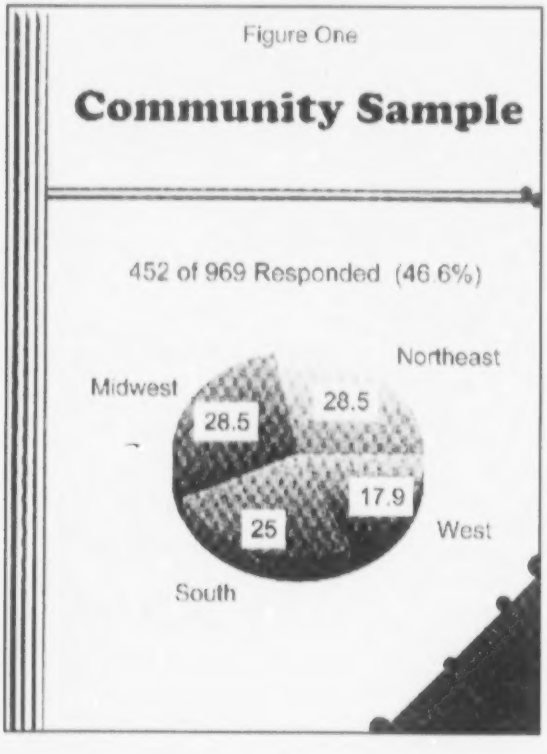
The key to success is training, training that is provided in a broad range of settings that go beyond the rehabilitation center or the postsecondary program. We all have to work together with deaf and hard of hearing individuals to assist them in having an equal shot at success. We need to expand access to a full range of postsecondary training opportunities. Analyzing 1997 data on education of deaf and hard of hearing persons, we find that persons vary in terms of their need for special-

[1]The research leading to this publication was conducted by faculty of the University of Arkansas Research and Training Center for Persons who are Deaf or Hard of Hearing, which is funded by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education under grant number H133B6002. The opinions contained in this publication are those of the authors and do not necessarily reflect those of the University of Arkansas or U.S. Department of Education. Portions of this paper were previously published (Boone & Watson, 1999).

ized training. For example, 2,300 benefit from postsecondary training defined as college and university programs. Approximately, 3,500 are more qualified for vocational training. Finally, 2,000 benefitted from community-based employment training. Unfortunately, much of this training occurs in programs that lack significant resources to serve these individuals.

A great deal of information has been collected recently to look at the needs for technical assistance and resources needed by traditional postsecondary programs. Previously, PEPNet conducted a national survey that targeted almost 10, 000 colleges and proprietary schools (Hopkins & Walter, 1998). By design, this study did not assess the needs of community based employment training centers. To complete the picture, the University of Arkansas Rehabilitation Research and Training Center for Persons who are Deaf or Hard of Hearing was asked to conduct a parallel study to the PEPNet national needs assessment. This survey targeted around 800 centers using a data collection instrument that was similar to the one used by the national PEPNet survey.

Figure One: Community Sample.



The rationale for this study is that a large percentage of the population do not go to college. For those who do start college, an estimated 75% of deaf college students drop out without completing a degree (Stinson & Walter, 1997). They obtain needed employment training from a variety of community-based employment training programs. Yet, little is know about these programs and their needs for technical assistance. We asked what kind of employment related services were provided. We asked about the resources used to provide these services and the numbers of individuals served. Equally important is the employment outcomes achieved by individuals served by these programs. Do they obtain jobs — *good* jobs with benefits, opportunities for promotion, and long-term employment? Finally, we wanted to determine the types of resources and technical assistance that would be helpful to these programs.

The study started with a total of 968 programs, of which 452 responded (46.6 %). As may be seen in Figure 1, the programs that responded were geographically distributed across all four PEPNet regions. However, proportionally fewer survey responses were received from community-based programs located in the West.

Results

The sections that follow present snapshots of some of the key findings. For more in depth analyses, readers can obtain the web-based technical report (Boone & Watson, 1999).

Overall, these programs served large numbers of persons with various disabilities. The mean number of persons served was 1,972.3 (SD=7512). However, this large standard deviation indicates these programs are varied in size. Of the programs that responded, almost all indicated that they currently serve or plan to serve persons who are deaf or hard of hearing (97.7%). Only 2.3 percent of the programs did not have current plans to serve this population. This is a very positive finding. There are significant opportunities for service available. Yet, when we begin to assess the number of deaf or hard of hearing individuals served, these numbers decrease to an average of 528.6 persons (SD = 2187.4). While significant in size, there is clearly room for more services, given the size of the popu-

lation of individuals who could potentially benefit.

In general, it is important to state that if served, many persons, almost 40 percent, complete their program of services. Another 40 percent obtained positive employment outcomes including competitive employment (39.7 %), supported employment (13.7%), or sheltered employment (10.9%). Almost 20 percent were seeking employment. Very few (16.2 %) were not employed and not seeking employment. Clearly, a large proportion of those persons who received employment-related services succeeded. Given more resources, programs could positively impact more persons.

What types of support and resources do they need? We presented a list of 50 areas and asked the programs to rate their priority needs. Reported in Boone and Watson (1999), programs indicated that needs were high across all areas with average ratings of between 3 and 4 for most items. Even more importantly, the needs identified were similar to those identified by college and university programs. Table One illustrates how some of the key areas compared.

Furthermore, respondent programs prioritized a number of specific resources as areas of high need. These included resources for employer development, workplace literacy, problem solving, job maintenance/advancement, and job accommodations. Since some of these training resources are available, it is clear that programs are unaware of their availability and could benefit from a network of expertise to help find resources, match them to need, and provide technical consultation in their use.

Programs were asked about their preferences in strategies to obtain these materials. These results, again similar to those obtained in the PEPNet survey, are presented in Table Two.

Table One: *Mean Priorities*[1]

Needs for Technical Assistance	RT-31	PEPNet
Funding/Grant Writing	3.89	4.07
Ways to Improve Services	3.83	3.93
Advocacy Resources	3.66	3.35
Technology for Access	3.46	3.93
Staff Development	3.38	3.76

[1] *The scale ranged from 1 (low) to 5 (high).*

Table Two: *Mean Preferred Strategies*[1]

Strategy	RT-31	PEPNet
State or regional seminars	3.75	3.58
Workshops for service providers	3.75	3.44
Collaborations with colleagues	3.74	3.61
Faculty/staff in service training/ development	3.74	3.54
Resource materials center	3.65	3.60
State or regional networks	3.64	3.54

[1] *The scale ranged from 1 (low) to 5 (high).*

The desired technical assistance strategies are very much parallel to those desired and preferred by college and university programs. Furthermore, the mean ratings of need were higher. Is this indicative of more need?

These data highlight the need for on-going attention to developing these community-based programs at the state and regional level. Overall, we need to assist these programs in their efforts to better serve individuals who are deaf or hard of hearing. By doing so, we will enable more students to obtain the quality of services they need in order to obtain employment and succeed at work. Our efforts should focus on the entire deaf and hard of hearing population, not just the 29 percent who go to college. At the state level, we need to implement interagency agreements between rehabilitation, education, and community-based programs to provide more employment training opportunities. We need to identify and organize existing expertise, resources and materials to implement these agreements and to expand the state funding and resources needed to further develop these employment training programs.

At the regional level, we should encourage existing networks like PEPNet to expand their outreach to target community-based employment training programs. These efforts should identify and organize expertise, resources, and materials to implement needed agreements to encourage these programs to grow and serve more individuals. Finally, on the national level, there is a clear need to fund and bring resources together to help develop and improve employment training programs at all levels, not just for colleges and universities.

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Students with Acquired Hearing Loss – Huh?

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Abstract

Students who acquire a severe to profound hearing loss face a difficult adjustment psychologically, socially, and vocationally. They frequently are unaware of other deaf or deafened people and the services available to them. Communication is the first issue a deafened student must address. This paper provides a description of adjustments experienced by deafened adults (Zieziula & Meadows, 1992), as applied to the personal experiences of the presenters.

Students with Acquired Hearing Loss – Huh?

We would like to open with the following definition from the Devil's Dictionary, 1991 ALDAcon version, written by Karen Graham. ALDA is the acronym for Association of Late Deafened Adults.

Huh? - The most utilized word in the ALDA vocabulary. It can be interspersed anywhere in a sentence. Often means: "Rephrase the question, please." May also mean: "I don't sign," or "I don't read lips," or "Even if I could understand you, I wouldn't know what you're talking about."

This definition was written to be humorous. We wanted to start with this definition because it is important to understand that deafened students often do not have effective receptive communication, especially if the hearing loss is recent.

The loss of receptive communication is one of the most difficult losses for an individual to encounter. When an individual is no longer able to listen to the radio, use a regular telephone, or have casual conversation with friends, family, and children or grandchildren, the psychological impact is enormous. People who are born with hearing loss do not have to make adjustments in communication as deafened persons do.

In this presentation, we will explain the impact of being deafened from two perspectives. My experience involves sudden onset hearing loss as a young college student who is male and single. Mary will provide her perspective with progressive hearing loss as a married female with children.

Persons who acquire a severe to profound hearing loss frequently are unaware of other deaf or deafened people. Deafened individuals tend to experience difficulty at work, withdraw from social events, and suffer inwardly as a result of the loss of receptive communication.

Communication is the first issue a deafened individual must address. The myths and realities of lipreading, hearing aids, and other assistive listening devices must be addressed. Sign language is an option but it does take time to learn. Professionals who work in the field of deaf services often see learning sign language as "the answer" to problems encountered by deafened individuals. It is important that professionals understand that sign language may be part of the solution but, by itself, is not the solution for deafened individuals. Psychological issues need to be addressed and coping skills need to be developed.

Zieziula and Meadows (1992) developed a series of adjustment themes based on their study with deafened adults. We will discuss these themes based on our own personal experiences and hope that you can apply these experiences to

situations you encounter. The five stages of adjustment as identified are:

- Spectrum of Emotional Responses
- Secondary Losses
- Confusion of Identity
- Acceptance
- Need for Competent Professional Assistance

Steve Larew: The spectrum of emotional responses includes disbelief, shock, anger, guilt, and other emotions. I became deaf at age 18 years due to a viral infection and high fever. For approximately one week, I recall having a "bad cold" with runny nose, cough, sore throat, headache, and other related symptoms. I did not go to a doctor but chose to drink lots of juice and use aspirin. While having this cold, I noticed some difficulty hearing but assumed it was related to the head cold. One week later, the cold was gone, but I was still having difficulty hearing. I thought my radio was broken, the TV in the lounge seemed to be broken, and other students were mumbling. I refused to believe that I could not hear. I chose to become more isolated and less involved with student events.

I was angry that I had become deaf and felt guilty about not going to the doctor while sick and possibly not taking care of myself. The only other person I had met who was deaf was almost 90 years old. It is okay to be deaf if you are 90, but it was not okay to be deaf while I was 18! I had never met another young person who was deaf and had no idea of services available.

Mary Clark: My hearing loss was different than Steve's as it was a gradual loss. Interestingly enough, individuals who experience a gradual loss also go through a spectrum of emotional responses. Each time the loss is experienced, we go through the emotions again. Despite my hearing loss, I was able to function as a hearing person until thirteen years ago after the birth of my second child. I was first diagnosed with a hearing loss in tenth grade. From tenth grade until my senior year of college, I did pretty well. In my senior year of college, I went from a 45 db loss to a 75 db loss and was labeled "legally deaf" a few months before I graduated. I was scared but still was not addressing grief issues and remained very positive. This may have been due to how I was raised. I still used the telephone, used hearing aids well, and did not know other people with hearing loss. I had majored in an oral Deaf Education program at Ball State University, so that fit in with my hearing loss.

The entire time I was at Ball State, I was unaware that there was a disability coordinator who could have assisted me and that services were available. I finally told a professor about the hearing loss when I felt I was starting to go through some depression, and she helped me greatly by just talking with me and letting me know my feelings of sadness were very normal. She supported me by coming with me to the speech and language clinic to have my hearing tested. It was very comforting to have a "friend" or someone who supported me through this time, and I think this is important for those students like me who are enrolled in a regular college curriculum. I also had severe vertigo at various times during my college years. I knew it was related to my hearing loss, but I kept it to my myself and suffered through it. I was unaware there was medication that would have helped had I gone to a health center or a doctor. The vertigo was very depressing.

After the birth of my second child, I lost all the hearing I had left within a sixteen month time period. I went through these emotional responses once again and to a much greater degree.

Steve Larew: Secondary losses include relationships, social and work activities, and loss of environmental cues. Having become deaf, it was difficult to maintain friendships I had developed during the first semester of college as well as friendships from high school years. Using the telephone to stay in touch was out of the question. This was 1971 so the technology was not available to assist as it is in the year 2000. E-mail, TTYs, and pagers would have eased distant communication. Face to face communication would have remained difficult.

I became more of a "loner" and did not involve myself in college activities. My grades began to decline as I was not able to hear class discussion or lectures. I had always been dependent on auditory senses for learning, and now it was necessary to depend on visual skills and reading. I had a hard time making this adjustment.

Mary Clark: I had the same problems with friendships when I became deaf. I was the only student I knew of at Ball State that had a hearing loss. My closest girlfriends were supportive, but I felt very

different from everyone wearing the hearing aids and having a hard time at social events. I could still do a lot of "hearing" things like talk on the phone and talk one on one with friends, but going to a party or something was difficult.

Dating was hard. I never told my dates I wore hearing aids and if I couldn't hear, I would bluff. I remember the hearing aids, used to have feedback noise if I hugged anyone, so I was always careful not to do that. I never dated anyone with a hearing loss because I did not know of anyone with a hearing loss. My world was all hearing friends and family members so I just dealt with the situation I was in the best I could. In noisy places I learned how to sit next to the person so that my "good" ear was closest to the sound. If it was noisy, I sat in the noisiest area and turned down my aids a bit. I found this to be helpful as others would have to speak up a little louder due to the noise, and the hearing aids would not pick up the background noise but pick up the people close to me talking loudly. Regardless, it was not really fun to go out and try to meet and talk with people. It was more of an anxious situation.

The way family get-togethers used to be and the way they became after my hearing loss was another secondary loss for me. My family is the kind of family where dinner time is a ritual that involves sitting at the table having lively discussions for hours on end. It was and still is a very tiring situation to continue to do this, as much as I enjoy being with them.

Confusion of identity involves deciding which social group an individual is comfortable with. At first, the deafened individual only knows he or she cannot hear. The person is not always aware of the Deaf, deafened, or hard of hearing organizations and groups. Once the individual is aware of these groups, the person needs to decide which is most comfortable. The individual is not limited to being involved in only one group but, most often, will find a higher comfort level with a certain group and become more involved with that group.

Steve Larew: My personal experience involved meeting Deaf people at Gallaudet College (now University). When I first arrived at Gallaudet, I had taken a six-week sign language class. My sign skills were basically limited to "My name is S-t-e-v-e". Obviously that was not enough to interact with 900 of the 1,000 students at Gallaudet who were fluent in American Sign Language.

I learned at Gallaudet that sign language was my most effective method of receptive communication. Hearing aids did not increase my speech comprehension.

My lipreading skills were and still are mediocre. Sign language worked for me. It was awkward for the first year, but I became friends with people who were patient with me. I use Signed English rather than American Sign Language (ASL) but people are able to understand me, and I understand them most of the time.

While I was a "think hearing" person at Gallaudet, I became more comfortable with Deaf groups than hearing groups. I was never able to fit in with hard of hearing groups. In 1990, I became involved with the Association of Late-Deafened Adults (ALDA) and found a group with whom I felt more comfortable than Deaf people. In simple terms, I found I identified with a group of people who were my peers and who had similar experiences.

Some of these deafened friends also attended Gallaudet at the same time I was there. At that time, in the mid 1970's, we did not really discuss our onset hearing loss. If we did, it was not a lengthy conversation because I have no recall of those discussions. There were attempts to set up deafened groups before ALDA was established, but none of them had the success of ALDA. Now many ALDA members go to professional or consumer conferences, and we have become a clique. You can usually find us sitting at a table in the corner of a bar using our basic sign language skills and other modes of communication.

Mary Clark: Since my hearing loss was progressive, my family had some time to adjust in their own way. Through high school and college, I was identified by my family as a person with a "little bit of a hearing loss." I described myself this way until 13 years ago. In college this was not really an issue because there was no real need for me to identify myself with regard to my hearing loss. I didn't talk to people about it.

My crisis with identification happened after I became functionally deaf. I was taking my three-year-old daughter to day care one morning it hit me that I was no longer a person with a "little bit of a hearing loss." Lauren was sitting in the back of the car and said something to me.

Normally, I would have heard her, but I could not understand her that day. I tried to bluff and she started crying. I bluffed the other way and she became hysterical. I then said, " we will wait until tonight and ask Daddy to help us" and that did not work either. She was hysterical and I had no idea what she was saying and could not fix it. It was a moment I will never forget. I asked another mother to tell me what my own child was saying. I realized I had to swallow my pride and do that for her sake. I then went out to the car, smiling and waving bye after we got it resolved, and then I fell apart. I realized I was not going to be able to hear her again and I had to figure out how to fix it. That night, as I was tucking her in, I told her that my ears were broken inside where she could not see them, and I could not hear her anymore but that things would be ok. We hugged and cried a bit. I think that episode had to happen for us to accept the fact that I could no longer hear.

Steve Larew: Acceptance involves not only accepting hearing loss for oneself, but acceptance by family and significant others as well. This acceptance involves identifying an effective method of communication. When an individual can understand other individuals, the road to acceptance is smoother. The individual learns how to function at home, at work, and in social situations.

I have met other deafened persons with family members who are not able to adjust. This is a difficult situation.

Assistive technology makes acceptance easier. TTYs, fax machines, visual alert devices, close-captioned television, Communication Access Realtime Translation (CART) and other devices makes communication much more accessible. Deafened individuals are very interested in cochlear implants. The improved technology with implants offers a cure to hearing loss that was not available in past years.

Mary Clark: I want to a comment about family members being able to adjust. This is crucial to late-deafened persons adjusting themselves. If there is no support system, he or she is not going to accept himself/herself because no one else is accepting them. At Hearing Loss Link, one of the things we try to do is get family members or friends into a workshop or counseling with the deafened person and teach them about grief and loss and help them develop coping and communication strategies.

Students need this kind of support system when they go home or when they are at school so that there is a feeling of some kind of control and respect for who they are, regardless of the hearing loss issues.

Steve Larew: The **need for competent professional assistance** involves you people i.e. the audience as well as speech, hearing, and medical personnel. I can still remember my first visit to an Otolaryngologist in 1971. He could not find anything wrong with my ears so he asked if I was worried about the military draft, implying that maybe I was psychologically deaf. He then asked if I had been smoking bad marijuana! There was no useful information provided.

My parents were determined to find a cause for my hearing loss. I went to the hospital and other sites for numerous hearing tests and examinations. It was approximately one year later we met a social worker who informed us about vocational rehabilitation. I met with this counselor who informed me about Gallaudet, National Technical Institute for the Deaf (NTID), and a few other programs. In 1971, there were not many options available.

I chose to attend Gallaudet, learned sign language, and later decided to pursue a master's degree in Deaf Rehabilitation Counseling at Northern Illinois University. Graduate courses in counseling and audiology helped me to learn about myself. However, it was aggravating that I had to wait ten years to learn that my experiences were normal reactions.

It is important for service providers to be aware of the resources available for deafened persons. Effective therapy involves identifying an effective method of communication. How can you assist an individual if you cannot communicate? Use of text communication is important. With the widespread use of computers, it should not be too difficult for the therapist to type rather than use sign language or speak.

The number of resources available to assist deafened individuals is growing. The Association of Late-Deafened Adults (ALDA) hosts an annual conference. In Illinois, Hearing Loss Link is available to provide assistance to deafened persons in the Chicago area and can provide technical assistance to professionals across the country.

Mary Clark: Steve and I give presentations for people who work with students and it is obvious that students need to know about the disability coordinator, and the disability coordinator needs to know how to provide support for late deafened students. I think an in-service for ALL staff is vital, considering so many late-deafened students are in regular college curriculums and like I was then – probably not talking about it. Most late-deafened people are not assertive or do not know what kind of help they need.

At the Hearing Loss Link, we begin with communication. For me to tell clients to learn sign language when they have no one who signs to them is obviously not going to help their situation. Consumers and students tend to come to the Link through family members or because another crisis has happened. We use a laptop or listening device to help the person understand. The first time we see them we practice, and we have to be the communication specialist because the individual may not be able to address what is needed for communication. We try to include them in social events or a support group that deals with acquired hearing loss. It would be beneficial to students to hook them up with another late-deafened person who lost their hearing as a student themselves. To hook them up with other students with hearing loss would be ideal.

In addition to what Steve said about resources, we have some books that ALDA sells—an ALDA reader and conference proceedings. They are helpful to lend out to consumers with acquired hearing loss issues and are helpful to professionals that deal with this population group.

Resources

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Effect of Postsecondary Education on Reducing SSI and SSDI Payments to Deaf and Hard of Hearing College Graduates[1]

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Abstract

This report describes the impact that postsecondary education for deaf and hard-of-hearing students has on reducing dependency on federal Supplemental Security Insurance (SSI) and Social Security Disability Insurance (SSDI) payments. The National Technical Institute for the Deaf (NTID), a college of Rochester Institute of Technology (RIT), is used as a case study. The effects of gender, degree attainment and year of exit are key independent variables used in this study.

Thirteen percent of the deaf and hard-of-hearing sample received SSI, including 15% of the females and 11% of the males. The more advanced the degree, the less likely it is that a person will collect SSI. Most recent graduates (1992-1996) received SSI payments at a rate greater than those exiting between 1980-1991. For all degree levels the percentage receiving SSI decreases with age. Between 1980 and 1989 the rates for males and females were similar. However, female graduates between 1989 and 1996 were more likely to receive SSI than males.

Twenty percent of the cases received SSDI, including 25% of the females and 17% of the males. Rejected and withdrawals were 2-3 times more likely to receive SSDI than deaf bachelor's graduates. The older an individual the more likely he or she will receive SSDI. The percentage of females and males receiving payments was similar during the first few years after graduation but female participation increases significantly over time.

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Finally, we thank Richard Burkhauser, Sarah Blanding, Professor of Policy analysis and chair, Department of Policy analysis and Management at Cornell University, for providing us with valuable counsel regarding this research.

Introduction

The United States has a history of public policy focusing on "...increasing the ability of disabled workers to overcome their impairment through rehabilitation and job training" (Burkhauser & Haveman, 1982: p. 96). Federal disability policy provides education, training, and job-placement

[1]The research reported in this document was conducted in the course of an agreement between Rochester Institute of Technology and the U.S. Department of Education.

services to assist disabled workers in gaining workplace access and accommodation. In recent years, competition for public funding to support education and training programs for working age disabled persons has increased, forcing programs to document and communicate the outcomes and benefits of their efforts. Programs need to provide constituencies with "...a better sense of what is being achieved with public resources" (Ruppert, 1994: 2).

> Disability programs resulting from public policy and supported by federal and state funding are being challenged to see . . . whether the programs comprise the most efficient and equitable means of providing protection and social adequacy. [The evaluation is being spurred by a sense that]. . .the costs [of] these programs and taxes required to finance them are greater than necessary to provide a socially acceptable safety net (Burkhauser and Haveman, 1982: 96).

While it is assumed that programs for the disabled facilitate career enhancement and improvement in one's quality of life, public officials also view the venture as a strategic investment. "From this perspective, accountability becomes less a question of equitable and efficient operations than documenting a concrete return on investment" (Ewell, 1991: 14). One measure of return on investment is the extent to which postsecondary education that prepares disabled individuals for employment reduces dependency on SSI and SSDI payments. The National Technical Institute for the Deaf (NTID) is a federally funded postsecondary education program that prepares individuals for employment. As such, NTID needs to document the return on the public investment, including reducing the dependency of its graduates on SSI and SSDI payments.

In assessing impact, leaders should be proactive and not wait for a crisis to occur before documenting benefits.

> Administrators who want to strengthen the position and image of their agency...can emphasize to...stakeholders the contributions and benefits to the agency that the stakeholders value. It is especially important to emphasize these contributions and benefits on an ongoing basis and not wait until budget cuts or other problems arise (Knox, 1991: 245).

One question related to return on investment that educational programs for disabled individuals should address concerns the impact education has on reducing dependency on Federal Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI) payments. Reducing program participation is critical since both SSI and SSDI tend to be programs that result in long term participation on the part of disabled persons once they begin receiving these entitlements (Burkhauser and Havemen, 1982). Professionals working in the rehabilitation and education of deaf and hard-of-hearing persons have, for a long time, indicated that many individuals are made dependent by their reliance on funds available through Federal SSI and SSDI. Yet there is no research to indicate whether such dependence exists and what variables impact receipt of payments. This paper focuses on the effect postsecondary education has on reducing this long-term dependency on SSI and SSDI transfer programs. To determine this dependency, NTID addressed the following questions:

Table 1 Number of cases sent to the SSA by gender and attainment level.

Gender	Sub Bachelor	Deaf Bachelor	Hearing Bachelor	Rejected	Withdrawal	Total	Percent
Male	1146	414	409	748	1688	4405	57%
Female	856	305	299	696	1112	3268	43%
Total	2002	719	708	1444	2800	7673	100%

- What are the effects of degree attained on receipt of SSI and SSDI payments?
- What are the effects of gender on receipt of SSI and SSDI payments?
- What are the effects of year of age on receipt of SSI and SSDI payments?

Methodology

To determine SSI and SSDI payments, the authors collaborated with the Social Security Administration, (SSA) Division of Research and Statistics. The project goal was discussed with SSA representatives, and a contract was negotiated for their services. SSA recovered full costs under the agreement. Information from SSA followed strict confidentiality guidelines. No data about individuals in the pool of subjects were reported. Individuals were not required to furnish any information, and no personal information was used in the data submitted by NTID.

NTID forwarded a data file of 7,673 cases to SSA. The file contained the following variables for each case: social security number, year of exit (1980 to 1996), gender, and degree attainment. The degree attainment variable had five categories: hearing with a bachelor degree from RIT; deaf with a bachelor's degree from NTID/RIT; deaf sub-bachelor's graduate from NTID; attended NTID / RIT but withdrew prior to receiving a degree; and applied to NTID but who were rejected (denied admission). Withdrawals and rejected students were studied in order to measure the effect of not completing college. The assumption could be made that the rejected students are a reasonable proxy for students with no college experience.

The sample was retrieved from the Student Record System at the Rochester Institute of Technology (RIT). This study is intended to measure the impact of education on NTID students and is not meant to be representative of deaf and hard-of-hearing persons in the United States.

Table 2

Number of cases sent to SSA by year of exit and attainment level.

Year of Graduation	Sub Bachelor	Deaf Bachelor	Hearing Bachelor	Rejected	Withdrawal	Total
1980	139	35	34	131	144	483
1981	155	31	31	103	123	443
1982	119	31	31	69	127	377
1983	138	26	26	115	181	486
1984	135	40	40	152	174	541
1985	129	39	39	118	204	529
1986	174	28	27	100	200	529
1987	156	30	29	90	196	501
1988	101	42	42	79	175	439
1989	127	45	43	70	126	411
1990	113	37	36	61	180	427
1991	100	48	48	45	155	396
1992	92	48	48	72	141	401
1993	83	52	51	57	168	411
1994	107	58	59	80	167	471
1995	69	66	65	38	137	375
1996	65	63	59	64	202	453
Total	2002	719	708	1444	2800	7673

SSA matched the 7,673 subjects with national records of individuals receiving SSI and/or SSDI payments in July 1998.[1] Table 1 presents information regarding gender and degree attainment of cases in this study.

Fifty-seven percent of the cases were male and 43% female. The number and percentage of males exceeded females at all attainment levels. The data file also contained information on year of exit. (Table 2). In this study, year of exit refers to the year an individual completed a degree, was rejected (denied admission), or withdrew from NTID before receiving a degree. As seen in Table 2, the percentage of cases was evenly distributed across all years of exit.

Disability Payments

Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI) provide disabled individuals with income support to facilitate career enhancement and improvement in quality of life. Approximately 60 percent of U.S. students receive SSI payments while attending NTID (Clarcq and Walter 1998). One outcome measure, then, is the extent to which postsecondary education that prepares deaf and hard-of-hearing individuals for employment reduces dependency on SSI and SSDI payments in a national environment where the numbers of disabled individuals receiving benefits is increasing (Mashaw, Reno, Burkhauser and Berkowitz, 1996: 119).

Supplemental Security Income

Supplemental Security Income (SSI), a federal entitlement program established in 1972, is for disabled individuals with little or limited resources. This program is an important part of this country's income support policy. General funds from the U.S. treasury finance the program. To be considered disabled for SSI an "...adult must have a physical and/or mental problem that keeps them from working for at least 12 months..." (Social Security Programs Can Help, 1995: 1). To be eligible for SSI a person must be a U.S. citizen or legal resident. Previous research by the authors (Clarcq and Walter, 1997) indicates that approximately 60 percent of all U.S. students attending NTID receive SSI benefits while enrolled. This 60 percent figure can be used as a baseline against which to judge the effect of college graduation on reducing dependence on SSI entitlements. These funds, averaging approximately $400 per month, are intended to provide a security net for individuals with limited resources. It is interesting to note, (Table 3 and Figure 1) that students applying to NTID and who were subsequently rejected received SSI payments at levels similar to students attending NTID. NTID students typically use these funds to defray the individual costs of their education.

Table 3 presents information—by age and education level—about the percentage of subjects who collected SSI benefits during July 1998. While this is a one-month snapshot, the figures obtained match those from earlier research (Clarcq and Walter, 1996) and therefore, will be used as representative of SSI rates. Age has a significant impact on receipt of SSI payments. Those exiting most recently (24 to 28 year olds) received SSI payments at rates greater than those who exited 16 to 18 years earlier (36 to 40 year olds). It is noteworthy that, for all groups, the percentage decreases with age. As a point of reference, by age 40 approximately nine percent of male and female withdrawals continue to collect payments, while for graduates the percentage is zero.

As indicated, on average, 60 percent of students attending NTID collect SSI while enrolled. This percentage represents approximately the same rate of SSI participation as for 20-year-old students rejected for admission. However, after graduation, the rates decline rapidly to the point that they are almost zero within ten years after graduation. Students who did not graduate maintain relatively high levels of SSI throughout the period of this study.

Social Security Disability Insurance

Social Security Disability Insurance (SSDI) is a federal social insurance program established in 1956 for disabled workers who are eligible for Social Security coverage (Social Security Disability Programs Can Help, 1995). "A person will be considered disabled if she or he is unable to do any kind of work for which they are suited and their disability is expected to last for at least a year..." (West, 1995: 2). A Social Security Administration priority is to help beneficiaries become independent and to take advantage of employment opportunities. SSDI is not intended to be a perma-

Table 3

Percentage of subjects receiving SSI benefits by age, degree, and gender.

	MALE					*FEMALE*				
Age	*Hearing BS*	*Deaf BS*	*Sub BS*	*Withdrawn*	*Rejected*	*Hearing BS*	*Deaf BS*	*Sub BS*	*Withdrawn*	*Rejected*
20		45%	63%	57%	60%		59%	67%	64%	72%
21		45%	63%	57%	48%		59%	67%	64%	57%
22		45%	63%	57%	41%		59%	67%	57%	49%
23		45%	63%	42%	36%		59%	67%	44%	43%
24	0%	45%	19%	33%	32%	2%	59%	29%	37%	38%
25	0%	45%	14%	27%	28%	1%	59%	22%	32%	34%
26	0%	6%	11%	24%	26%	1%	13%	17%	28%	31%
27	0%	4%	9%	21%	23%	1%	10%	14%	24%	28%
28	0%	3%	8%	18%	21%	1%	8%	12%	22%	26%
29	0%	3%	7%	16%	19%	1%	6%	10%	19%	24%
30	0%	2%	6%	15%	18%	0%	5%	9%	17%	22%
31	0%	2%	5%	13%	16%	0%	4%	7%	15%	20%
32	0%	2%	4%	12%	15%	0%	4%	6%	14%	18%
33	0%	1%	3%	11%	13%	0%	3%	5%	12%	16%
34	0%	1%	3%	9%	12%	0%	2%	4%	11%	15%
35	0%	1%	2%	8%	11%	0%	2%	3%	9%	14%
36	0%	1%	1%	7%	10%	0%	1%	2%	8%	12%
37	0%	1%	1%	7%	9%	0%	1%	2%	7%	11%
38	0%	0%	0%	6%	8%	0%	0%	1%	6%	10%
39	0%	0%	0%	5%	7%	0%	0%	0%	5%	9%
40	0%	0%	0%	4%	6%	0%	0%	0%	4%	8%

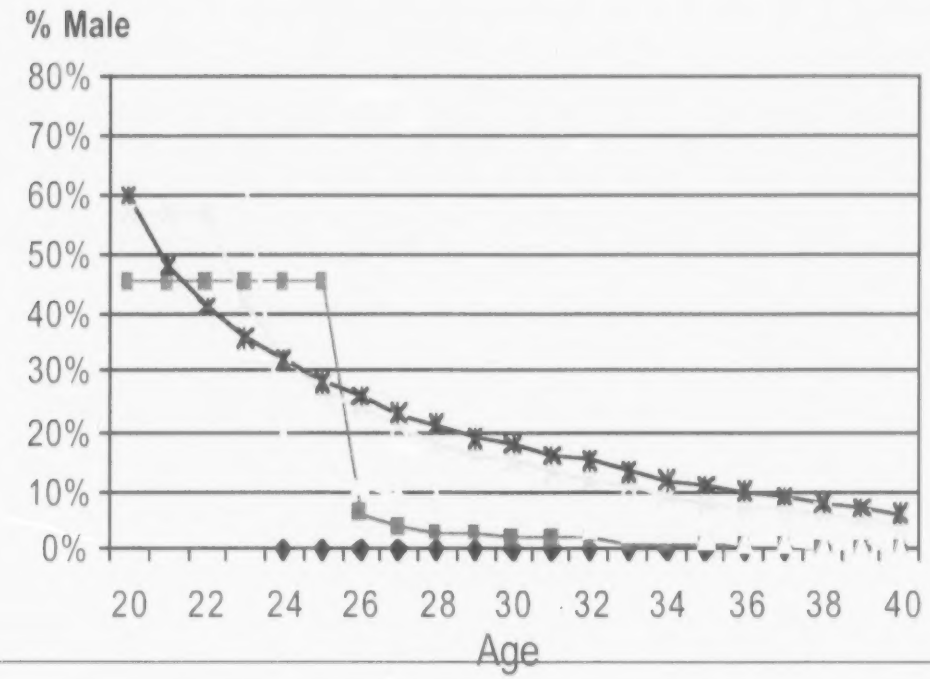
nent source of income. Rather, it is meant to improve a person's economic condition. However, nationally, fewer than 10 percent of disabled individuals receiving benefits will leave the SSDI roles (Mashaw, Reno, Burkhauser, and Berkowitz, 1996).

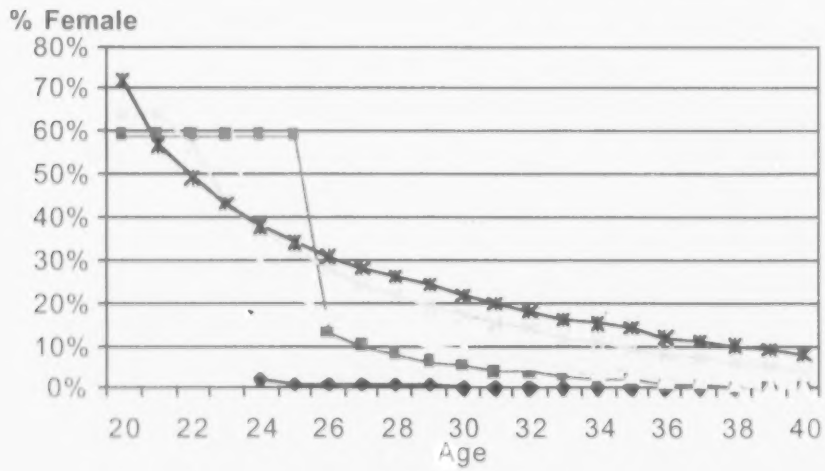
SSDI is funded with Federal Insurance Contributions Act (FICA) taxes paid by employers and workers. Eligibility for disability benefits is based on a person's work history and the benefit amount depends on one's earnings. Individuals must have worked and paid FICA tax for enough years to be covered under Social Security, and some of the taxes must have been paid in recent years. The SSDI payment amount is based on a worker's lifetime average earnings covered by social security. At the time of this study, to be eligible for SSDI a disabled person must not be working or working but earning less than the Substantial Gainful Activity (SGA) level ($500/month). In essence, SSDI is an unemployment benefit for a person with a disability. The benefit doesn't stop until the person finds a job that exceeds the SGA level.

Table 4 and Figure 2 provide information—by degree attainment and age—about the percentage of males and females receiving SSDI. It should be noted that almost no one attending NTID collected SSDI. This is because most students do not meet SSDI participation requirements before enrolling. In contrast, immediately after exit significant num-

Figure 1

Percentage of males and females receiving SSI payments by age and education level





RITBS NTIDBS SUBBS WITHD REFER

Table 4

Percentage of subjects receiving SSDI benefits by age, degree, and gender

	MALE					FEMALE				
Age	Hearing BS	Deaf BS	Sub-BS	Withdrawn	Rejected	Hearing BS	Deaf BS	Sub-BS	Withdrawn	Rejected
20					7%					19%
21					12%					22%
22				23%	15%				21%	24%
23				23%	17%				24%	25%
24	1%		14%	23%	18%	3%		21%	26%	26%
25	0%		13%	23%	20%	2%		23%	28%	27%
26	0%	17%	13%	23%	21%	2%	5%	24%	29%	28%
27	0%	15%	13%	23%	22%	1%	10%	24%	29%	28%
28	0%	14%	13%	22%	23%	1%	12%	25%	30%	29%
29	0%	13%	13%	22%	23%	1%	14%	25%	31%	29%
30	0%	12%	13%	22%	24%	1%	15%	26%	31%	30%
31	0%	12%	13%	22%	25%	1%	16%	26%	32%	30%
32	0%	11%	13%	22%	25%	0%	17%	26%	32%	30%
33	0%	11%	13%	22%	26%	0%	18%	26%	32%	31%
34	0%	10%	13%	22%	26%	0%	19%	27%	33%	31%
35	0%	10%	13%	22%	27%	0%	19%	27%	33%	31%
36	0%	10%	12%	22%	27%	0%	20%	27%	33%	31%
37	0%	9%	12%	22%	27%	0%	21%	27%	34%	32%
38	0%	9%	12%	22%	28%	0%	21%	27%	34%	32%
39	0%	9%	12%	22%	28%	0%	21%	27%	34%	32%
40	0%	9%	12%	22%	28%	0%	22%	28%	34%	32%

bers begin collecting benefits. This is probably because numbers of students have worked while in college, either at part time jobs or in cooperative education positions, and become eligible for benefits. On average 15 percent of all male graduates and 20 percent of female graduates collected SSDI benefits one year after graduation.

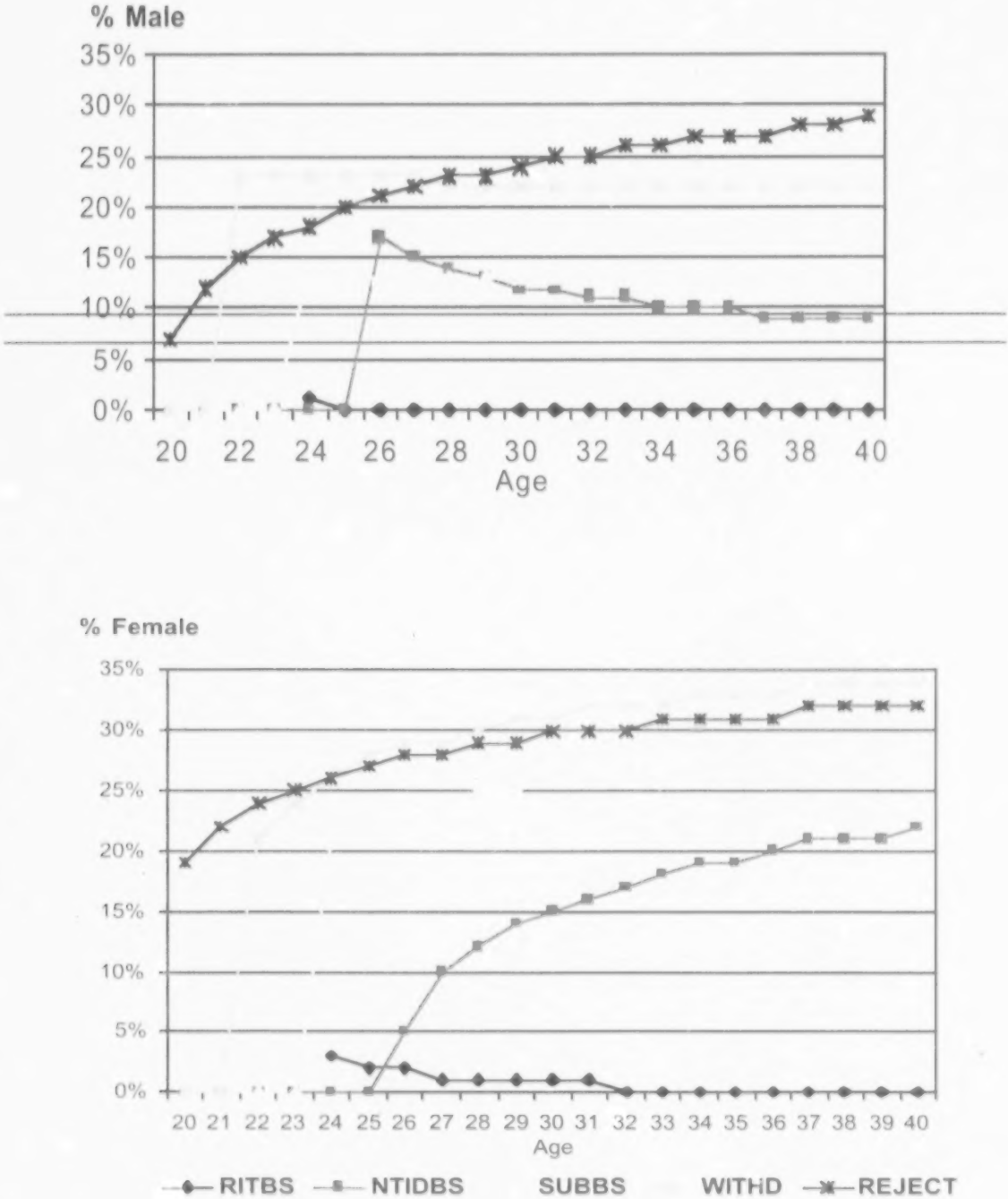
As with the percentage of subjects reporting earnings, there are significant differences between males and females. For both males and females the percentage of cases collecting SSDI benefits who withdrew or were rejected at admission was greater than for students who graduated. The percentage of male graduates collecting SSDI gradually decreases with increasing age, while the rate increases for females. By age 40 approximately 10 percent of male graduates collected SSDI benefits, compared with approximately 30 percent of females who did not graduate. Over time, graduation from NTID reduces dependency on SSDI, especially for males. For females, graduation reduces the numbers receiving SSDI payments.

Summary

Completing college certainly reduces the probability that a deaf and hard-of-hearing person will collect SSI or SSDI. By age 40 no graduates are collecting SSI while five percent of non-graduates continue to participate in the program. This re-

Figure 2

Percentage of males and females receiving SSDI payments by age and education level.



duction is especially noteworthy when one considers that approximately 60 percent of graduates were receiving SSI benefits while enrolled as students.

SSI contrasts with SSDI in that, while they were students, virtually no graduates were participating in the SSDI program, but by age 40 about 10 percent of males and 25 percent of female graduates are collecting SSDI. These rates compare to approximately 30 percent for non-graduates. It also appears that individuals graduating with sub-bachelor's degrees have higher rates of SSDI participation than individuals graduating with bachelor's degrees. These higher rates are probably the result of increased unemployment on the part of sub-bachelor's graduates, and might be indicative of employability problems of some persons graduating at this level.

While SSDI rates for males are relatively flat over time, rates for females increase with time. It appears that females use SSDI as an income support during their child rearing years. One unanswered question is whether these individuals will return to the workforce after their childbearing years. Mashaw, Reno, Burkhauser and Berkowitz (1996) indicate that, nationally, fewer than 10 percent of individuals collecting SSDI are ever removed from the roles. If these national statistics apply to deaf women, than it can be expected that an increasing number of highly educated deaf and hard-of-hearing females will collect SSDI throughout their life.

Policy Implications

The findings suggest that federal funding of post-secondary programs such as NTID reduces continued dependence on SSI and SSDI programs, especially for graduates. However, there are differences between these two programs.

An earlier study (Clarcq and Walter, 1997) found that approximately 60 percent of students attending NTID were receiving SSI. Ten years after graduation less than one percent of these graduates are collecting SSI, while ten percent of non-graduates continue to receive benefits even into their 30s. Training programs have a significant impact in improving overall income levels to avoid continued dependence on the income supports provided through the SSI program.

The findings are not as clear for SSDI, since there is a relatively high percentage of graduates who are receiving SSDI benefits well into their thirties. The issue to be addressed is whether the reported levels of 18 percent for sub-bachelor's and 13 percent for bachelor's graduates are acceptable. Certainly these levels are lower than the 30 percent (30%) reported for those who do not graduate. While college graduation reduces the probability that individuals will collect SSDI, significant numbers of graduates (12 percent of male and 30 percent of female) are receiving payments 10 years after graduation. As long as U.S. disability policy permits deaf and hard-of-hearing persons to qualify for SSDI there will be a certain percentage of people taking advantage of the benefit.

The high percentage of females collecting SSDI deserves special note, though it is not possible from this study to assess whether the relatively higher percentage of female participation is based on income need or on the fact that SSDI is a social benefit of which deaf and hard-of-hearing women of childbearing age can take advantage. Findings from this research indicate that many deaf and hard-of-hearing women who were previously employed begin collecting SSDI by the time they are in their early thirties. The policy issue raised is whether this is an intended use of SSDI.

Another question raised for further study is whether there is any relationship between major area of study and the probability of collecting SSDI. The results of this study poses the hypothesis that programs whose graduates seek employment in areas where the salary levels are only slightly above minimum wage (i.e. less than 10 dollars per hour) and for which there is little opportunity for job advancement, are prime candidates for SSDI. It makes economic sense, since the difference between the SSDI benefit and the wage potential is relatively narrow. The question NTID must address is whether there are such programs and whether these programs are responsible for the higher than desired level of graduates collecting SSDI, especially at the sub-bachelor's level.

The findings discussed in this report suggest that further research must be conducted which evaluates the relationship between major area of study and relative earnings level of persons collecting SSDI at a point in time. Research of this nature would offer reason(s) for collecting SSDI. For example, it is possible that some sub-bachelor's graduates have difficulty enhancing their technical skills and thus need SSDI payments

as part of the process of developing new skills necessary to function in the workplace. Such findings could provide information concerning levels of earnings and participation in SSI and SSDI programs to be expected from graduates of majors offered through the college of NTID.

Endnote

1. We use the July participation rates as representative of average rates across a year. While the authors recognize there may be monthly variations in the numbers of individuals collecting SSI and SSDI, a study conducted in 1996 with NTID alumni as subjects (Clarcq and Walter, 1997) indicated similar overall rates of participation as the current study.

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Improving Rehabilitation and Employment Outcomes for Postsecondary Students Identified as Deaf and Low Functioning (LFD)

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Abstract

This paper provides an overview of newly published national guidelines for improving rehabilitation and employment training services for non-college bound students who are deaf, particularly those described as "Low Functioning." The overview starts with a brief description of the population and the problems these individuals present to postsecondary training efforts on their behalf. Ways and means for improving school to work transition services, employment training, and placement efforts are then presented. The need for hiring skilled and knowledgeable personnel and the importance of planning and implementing statewide postsecondary employment training and service delivery systems for "LFD" and other non-college bound individuals are highlighted. The paper concludes with a series of programmatic recommendations encouraging PEPNet programs and personnel in the various states and regions to foster collaboration among state VR agencies and postsecondary training and education programs in order to better provide employment preparation training for non-college bound and "LFD" individuals.

Federal/State VR Program's Institute on Rehabilitation Issues

Each year, the Rehabilitation Services Administration (RSA) program within the federal Office for Special Education and Rehabilitative Services (OSERS), funds three Institutes on Rehabilitation Issues (IRI). These institutes are conducted through grants to RSA Regional Rehabilitation Continuing Education Programs (RRCEPs). During 1998-1999, one of the three designated topics for the 25th IRI was entitled: "Improving Rehabilitation Services and Employment Outcomes for Individuals who are Deaf and Low Functioning (LFD)." A national 'Prime Study Group' of experts drawn from the Federal/State VR agencies and the field of deafness rehabilitation were convened to collaborate in the development, writing, and dissemination of guidelines describing ways and means that the states can address major issues confronting the rehabilitation community in their efforts to serve deaf individuals described as "LFD."

In this paper, key members of the "LFD IRI Prime Study Group" present an overview of the materials and recommendations generated by the LFD study group. The focus of the paper is to provide an overview of the published 25th IRI report (Dew, 2000) and encourage PEPNet programs and personnel in the various states to become active players in shaping ways and means that their own state VR agency implements the recommendations developed by the "LFD IRI Prime Study Group." A national call for improving postsecondary education and training efforts on behalf of "LFD" and other non-college bound deaf persons is an integral part of the report's recommendations.

Readers who are not familiar with the "IRI" program need to know that: the State/Federal VR program uses the annual "IRI" process to lay out programmatic expectation for state VR agencies to utilize as a document to guide their efforts to improve the delivery of rehabilitation

services and programs for persons in their respective states. Contemporary issues and challenges related to rehabilitation efforts on behalf of "LFD" persons will obviously impact upon and shape the way the rehabilitation field goes about the business of serving persons with multiple and severe disabilities, including those individuals who are deaf or hard of hearing and have been identified as "LFD."

The goal, accordingly, was to provide a forum in PEPNet 2000 which would provide the information that educators and rehabilitation personnel involved in postsecondary education and training programs designed for students who are deaf or hard of hearing need in order to be informed of the issues and processes involved. In other words, the goal was to empower deaf education and rehabilitation professional and consumer representatives to play productive roles in the process of defining and implementing meaningful changes to improve the nation's rehabilitation system for individuals who are deaf or hard of hearing, especially in the areas of postsecondary education, training, and related employment preparation services.

Organization of the "25th IRI for LFD Persons"

The 25th IRI guidelines for improving vocational rehabilitation efforts with deaf persons described as low functioning are organized into six chapters. These include:

1) Understanding Individuals who are Deaf and Low Functioning,
2) Assessment and Casefinding,
3) School-to-Work Transition,
4) Achieving employment Outcomes for the LFD Population,
5) Human Resource Management, and
6) Assessing Services and Making a Commitment.

Time and space constraints limit us to providing only an overview of selected highlights from the 25th IRI on LFD. We will focus our presentation on describing the population and reviewing selected challenges these individuals present to the states as they attempt to plan and implement programmatic service delivery and postsecondary training programs for LFD individuals. Recommendations are then provided for ways and means that the states and nation might better approach the postsecondary training and employment training for these individuals. The interested reader is encouraged to access the actual IRI publication (Dew, 2000) which is available in both print and electronic format from various sources listed in the References section of this paper (e.g., an electronic PDF file from the University of Arkansas at <www.uark.edu/deafrtc>, or the Oklahoma Clearinghouse at <www.nchtrm.okstate.edu/ >).

Characteristics of the Population

Deaf people who are eventually described as "low functioning" are identified as such because of a diagnosed secondary disability or because of problems in behavior, academic achievement, language use, development of independent living skills, employment, or some other major life functioning with no known etiology. Research and practice have identified and agreed on six characteristics that seem to describe persons who are LFD. These include, but are not limited to (Dew, 2000, pp 3-4):

> 1. Inadequate communication skills due to inadequate education and limited family support. Presenting poor skills in interpersonal and social communication interactions, many of these individuals experience difficulty expressing themselves and understanding others, whether through sign language, speech and speech reading, or reading and writing.
>
> 2. Vocational deficiencies due to inadequate educational training experiences during the developmental years and changes in personal and work situations during adulthood. Presenting an underdeveloped image of self as a worker, many exhibit a lack of basic work attitudes and work habits as well as a lack of job skills and/or work goals.
>
> 3. Deficiencies in behavioral, emotional, and social adjustment. Presenting a poorly developed sense of autonomy, many exhibit low self-esteem, have a low frustration tolerance, and have problems of impulse control that

may lead to mistrust of others and pose a danger to self and others. Because they experience difficulty in normal social interactions, many are avoided or rejected either because of socially unacceptable behaviors or because of societal attitudes and discriminatory actions toward them.

4. Independent living skills deficiencies. Many of these individuals experience difficulty living independently, lack basic money management skills, lack personal hygiene skills, cannot manage use of free time, don't know how to access health care or maintain proper nutrition, and have poor parenting skills.

5. Educational and transitional deficiencies. Most read at or below a fourth-grade level and have been poorly served by the educational system, are frequently misdiagnosed and misplaced, lack a supportive home environment, are often discouraged in school and drop out, and are not prepared for post-school life and work. Approximately 60% of those deaf students who leave high school cannot read at the fourth-grade level.

6. Health, mental, and physical limitations. Many have no secondary physical disabilities, but a large number have two, three, and sometimes more disabilities in addition to that of deafness. In fact, 30% of deaf high school leavers had an educationally significant additional disability. These secondary disabilities range from organic brain dysfunction to visual defects. These problems are further compounded in many instances by a lack of knowledge on how to access health care and/or self-care.

In addition, the IRI Task Force estimated that approximately 25-30 percent of the nations' deaf population has other disabilities in addition to deafness. The combination of these set of six significant factors often result in significant educational deficits among many deaf students. There is also a consensus that 'inadequate communication and language skills' are among the defining characteristics and directly hinder educational and rehabilitation efforts on their behalf.

Unfortunately, the bulk of our nation's postsecondary training resources for students who are deaf are best suited to the college-bound student. As a result, many of the non-college bound students (which include LFD) exiting secondary educational programs each year are not receiving the attention and resources (e.g., on-the-job training, job coaching, and related' community-based employment training) they need for obtaining other types of postsecondary job training and assistance in preparing for employment. Yet, a look at recent national statistics available from the Rehabilitation Services Administration for Fiscal year 1997 shows that among the 35,209 deaf and hard of hearing persons served by the Federal/State VR program that year, 14,824 were closed successfully (employed). Of those 'closed successfully,' 13 percent had received support for college/university training, while 31 percent received community-based employment training (See Table 1), precisely the programs that are not currently targeted by most PEPNet programs!

Table 1
VR Training Outcomes -
RSA 911 Data for 1997

	Frequency	Percent
Applied for Services	35,209	100
Closed Successfully	14,824	42
College/University Training	1,917	13
Employment Training	4,626	31

Transition from School to Work or Postsecondary Training

Among other priorities, the IRI Task Force recommended that the states need to more aggressively identify and enroll LFD students in school-to-work transition programs. They also proposed that a person-centered ecological

planning approach can be an effective tool for assessment of individual abilities and potentials in all critical areas. It is recommended that school and VR personnel should place an emphasis on a goal-oriented approach using "mapping," discrepancy analysis, and trial work assessment strategies such as job prospecting and on-site job coaching in order to obtain assessment data that looks at the whole person across all relevant environments where he or she will function.

Furthermore, it was emphasized that: State VR agencies need to become involved with students who are LFD at earlier age. In 1997, as a national average, only 15 percent of consumers of VR services in active status were under the age of 22, indicating we are not reaching and serving students with disabilities who are of school age. A 1994 study of deaf youth found that 49 percent of non-college bound youth under the age of 23 were unemployed; even more alarming, 39 percent of those OVER the age of 23 continued to have no job/work. VR and schools need to use best practices models for transition efforts with LFD students.

Among other initiatives, school and VR personnel should cooperatively design as many strategies as possible to introduce the student who is LFD to concepts of self-care, independent living, and work experiences, including on-the-job training, supported employment, and related activities.

If VR providers are to maximize the employability and job retention skills of LFD consumers, they must design programs and interventions that circumvent risk factors by focusing their attention on a specific applicant, identifying his or her talents and abilities, and then locating the most appropriate job for that person.

It should also be emphasized that a key factor to the success of the consumer who is LFD will be provision of postemployment and long-term follow-up services that foster development and use of natural supports within the workplace as well as job coaches and ongoing follow-ups to ensure job retention over time. All levels of the VR system — administrators, direct service professionals, clerical support, and contractors — must embrace the concept that employment goals and quality employment can only be realized with the employer as our customer and eventually as our partner.

Qualified Staff with Appropriate Knowledge, Skills, and Abilities

The Rehabilitation Act Amendments of 1998 emphasize in Section 101 (a) (7) that the states establish and support qualified rehabilitation staff, mandating a comprehensive system of personnel development (CSPD) that focuses on training "to ensure an adequate supply of qualified State rehabilitation professionals and paraprofessionals" and to establish standards for such staff. The 1998 Rehabilitation amendments further require, in Section 101 (a) (7) (c), that the state plan: "contain standards to ensure the availability of personnel within the designated State unit, to the maximum extent feasible, trained to communicate in the native language or mode of language of an applicant or eligible individual."

Provision of VR information and services "in an appropriate mode of communication" is specified throughout the Act from the point of intake to participation in closure decisions. Plainly, it is intended that communication accommodations be provided to the person who is deaf throughout the VR process, either directly by the counselor or other service providers or through interpreters and technology that result in understandable two-way communication. In addition to the need for commitment at the top administrative level, it is critical to have an administrative staff person – such as a State Coordinator of Services for Individuals who are Deaf or Hard of Hearing (SCD) — who has knowledge and skills in the area of LFD and is empowered to provide direct support to field staff.

The IRI recommended that states identify or establish a statewide network of State VR direct service delivery professionals (Rehabilitation Counselors for the Deaf - RCDs) and allied professionals who are qualified to provide equal access for individuals who are LFD in VR, independent living, and supported employment extended services. Counselors and other staff providing services to LFD must either be skilled or develop prerequisite knowledge, skills, and abilities (KSA) in the three distinct areas of: Professional Discipline KSAs, Communication KSAs, and Knowledge of Deafness KSAs. The states can implement and use Comprehensive State Personnel Development (CSPD) and other HRD training and development strategies to enhance and improve the KSAs of the agency's personnel (Table 2).

Table 2
Development Required for Different Types of Applicants

Level of Readiness	Development Needed
Discipline-ready, with KSA with individuals who are LFD	• Continued honing of skills through use of mentors and peer contacts
Discipline-ready, with no experience	• Communications skills • Deafness knowledge
Communication-ready	• Professional discipline • Deafness knowledge
Deafness-ready	• May need manual communication skills • Discipline-related training (rehabilitation, job placement, etc.)

Figure 1
Model Assessment of Current Agency Status

Assessment of Current Agency Status & Assessment Plan	*Where are we?* 1. Level and distribution of current services 2. Quality of current services 3. Counselor assignments and accessibility 4. Office accessibility 5. Policy and practice analysis 6. Projected unserved numbers 7. Available pre-service programs 8. Available staff training programs and consultants
State of the Agency Report **Development of Strategic Plan**	*Where do we want to be?* 1. Statewide staffing plan 2. Recruiting/assigning counselors 3. Accessibility compliance 4. Policy, standards, and practice 5. Pre-service training plan 6. In-service training plan 7. Continuing education plan
Plan Implementation and Monitoring, Evaluation, Revision	

Assessment and Strategic Planning

Key Points for State-Federal Assessment & Strategic Planning are outlined in Figure 1. Details for following this assessment model can be found in "Rehabilitation of Individuals Who Are Hard of Hearing and Late Deafened: Administrator's Guide" (University of Arkansas, 1993), of which this is an adaptation. The guide is available through the Oklahoma Clearinghouse.

When assessing current service level, it is important to look at both the current numbers served and the quality of services provided to this population. Analyses of projected unserved numbers and unmet need statewide is equally critical since many individuals who are LFD may have slipped through the cracks.

Making the Commitment: State and Federal Recommendations

State Agency:

- Conduct a formal assessment of the agency's current quality and scope of services for individuals who are LFD and develop a strategic plan that will ensure equal outreach, access, and quality of postsecondary training and employment services for this population.

- As new programs are developed, including one-stop centers established through the Workforce Investment Act, consider how individuals who are LFD will be accessed and accommodated. Provide technical assistance as needed.

- Consider the needs of individuals who are LFD in the development of cooperative interagency agreements between state VR and postsecondary education and training programs.

- Address holistic needs of persons who are LFD (such as independent living skills training, basic education, and communication and language training) through policy modifications or collaborative efforts with other agencies so that these individuals are enabled to achieve a successful employment outcome.

- State VR agencies that prohibit out-of-state referrals should develop a process to allow justification for use of out-of-state postsecondary education and training programs for persons who are LFD.

OSERS:

- Encourage RSA to conduct a national forum of State Coordinators for the Deaf and State Coordinators for the Deaf-Blind or designated staff to be held biennially. These forums would provide opportunities for collaboration, networking, and sharing information about model programs and services. The first forum should focus on implementation of findings of this IRI document on improving VR services and employment outcomes.

- Encourage RSA to establish appropriate disability coding (911 data) for the purpose of collecting and tracking data related to VR services and this population.

- Encourage OSERS to fund a minimum of four regional service centers to provide specialized direct services for individuals who are LFD.

- Encourage NIDRR to again fund a Research and Training Center for LFD or to increase the funding to RT-31 at the University of Arkansas to enable that group to appropriately address this population in their priorities.

- Encourage NIDRR to develop a priority, either within a research and training center or in research-related competition, for the development of an ASL assessment method for use with adults to establish a baseline functioning level and identify specific language-related deficits of adults who are LFD.

- Encourage funding of a training and technical assistance network to assist professionals and programs serving individuals who are LFD that parallels the PEPNet structure and regions.

- Recommend that each PEPNet geographical region designate 25% of funds and resources to development of voc-tech and employment training programs.

Challenges to PEPNet, Deaf Education, and Deafness Rehabilitation Field

To play a productive role in this process, postsecondary programs and personnel skilled in deafness will need access to the kind of first-hand information this presentation was designed to provide regarding the IRI related to rehabilitation efforts on behalf of "LFD" persons in the various states. The fields of deaf education and postsecondary training will need to become familiar with the IRI publication for improving VR services for "LFD" persons. Deaf education, postsecondary education and rehabilitation professionals, along with deaf and hard of hearing consumer representatives, can then be better prepared for a more active and productive leadership role. Among other goals, we recommend that PEPNet programs and affiliates help foster productive postsecondary training and education programs and services for LFD individuals by working in partnership with their home state VR system to implement the following kinds of interagency and interdisciplinary collaborations.

A National Network of Voc-Tech and Employment Training Centers

- Identify, organize, & coordinate a consortium of programs.

- Develop teams of trainers.

- Deploy expert team to coordinate and support.

- Expand PEPNet outreach to better target voc-tech and employment training programs in the states, including programs that provide job coaching and on-the-job training for LFD.

- Identify and organize expertise in area of LFD to assist/staff of PEPNet regional and state program affiliates in developing and operating a national network of training programs.

State-by-State Network

- Assist states in planning and providing comprehensive voc-tech and employment training.

- Develop a statewide network to include local employment and support systems.

- Coordinate and collaborate on development and establishment of needs-assessment and related research activities related to interagency efforts by state VR, IHEs, and PEPNet programs.

- Implement interagency agreements that include voc-tech and employment training programs for LFD and other non-college bound persons who are deaf.

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Contacts and Sources

University of Arkansas Research & Training Center for Persons who are Deaf or Hard of Hearing at: <www.uark.edu/deafrtc>, click on "Publications" and then download the PDF files for "25th IRI."

Douglas Watson: <Dwatson@comp.uark.edu>
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National Clearinghouse of Rehabilitation Training Materials (NCRTM) at OK State University: 1-800-223-5219 http://www.nchtrm.okstate.edu/

Section IV
Best Practices

Job Pacement Services Enhancement Model

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Abstract

The following is a description of a Job Placement Services Enhancement model program that the Program for Deaf Adults at LaGuardia Community College, City University of New York, developed to serve students who are deaf or hard of hearing. It is hopeful that this model program will help to improve the employment outcomes of deaf and hard of hearing students who attend mainstream institutions. This model project was funded through a three-year federal grant from US Dept. of Education (OSERS).

This model project involved the collaborative efforts of two departments: The College's Job Placement Office (JPO), whose database includes over 2000 companies; and Program for Deaf Adults, which serves nearly 45 degree Deaf and hard of hearing students annually. Together a Deafness Specialist and a designated Job Placement Counselor created a series of training workshops for deaf students; adapted a handbook to include accommodative information for deaf and hard of hearing students; created a resource manual for the job counselors; and developed a handbook and a videotape for the prospective employers of deaf and hard of hearing individuals. They also modified the mainstream office to meet the job placement needs of deaf and hard of hearing students by making the office physically accessible and by orienting the JPO staff members to deafness-related issues. In the second year of the three-year grant activities, a second workshop was also given to JPO counselors, due to the turnover of staff. It is important to note that we continue the orientation from time to time. The Deafness Specialist was able to assist JPO in identifying and recruiting potential staff who were well-versed in Title I of the American with Disabilities Act, who understood the various communication modes used by deaf individuals, and who were fluent in the use of ASL.

A reference manual was developed for the use of JPO counselors, which covered different information pertaining to the interviewing and hiring of deaf and hard of hearing students. A TTY has been installed in the JPO and still is being used in good condition. The JPO handbook, modified to include deaf and hard of hearing students to be used as a guide to the JPO services, also included disclosure guidelines and accommodations available to these students.

The Deafness Specialist and the JPO counselor have met on a regular basis to review progress of project activities, which included preparation of students' surveys, conducted in year one, and follow-ups of the questionnaire responses. A focus group of Deaf and hard of hearing students was also formed in the second year to address the concerns and issues that the students have raised.

The major indicators preventing students from using the JPO services, as cited in the survey and focus group outcomes, pertained to the JPO's lack of communication access and a limited awareness of issues related to working with deaf individuals as well as the concerns related to the employers who are seeking applicants. The survey also showed the need for these students

to attend a series of workshops, which covered the range from job-readiness skills to self advocacy to entitlements (SSI and other fiscal incentives).

The questionnaire was also sent out to the employers who are selected from the JPO's database files, and a handful (approximately 5%) have replied requesting for more information pertaining to the communication tips, accommodation and strategies to meet the needs of Deaf and hard of hearing job holders.

The handbook and videotape, targeting the employers, have been developed in the third-year of the grant for the purpose of aiding the employers who are scheduled to interview Deaf and hard of hearing students. This effort was a result of the employers' and deaf students' response to the questionnaires, which stressed the need to educate and sensitize the companies who may be hesitatant to hire this group. The videotape portrayed three different deaf employees communicating and interacting with hearing supervisors and colleagues as well as an expert on the reasonable accommodations in the job setting. In this packet, possible employers' barriers to employment of deaf and hard of hearing students have been noted and addressed in the following areas:

- Attitudinal barriers and fears
- Lack of understanding regarding Deafness/Culture
- Potentially biased pre-employment testing procedures
- Concerns regarding phone usage on the job
- Concerns regarding safety on the job
- Negative first impression of Deaf job seekers in person, on the phone via Relay Services, TTY, or phone interpreters.

At the end of the funding period a significant increase in the number of students/graduates who were seen by the JPO counselors (by 50%); and an increase of these students being placed in the competitive market (66%) was noted. A majority of these students who visited the office were seeking part-time work while attending classes here at LaGuardia. The College students are required by their majors to be placed in the Cooperative Education internship. This is usually beneficial, as the companies hire a majority of our students who they interned with them. Some of the students continued their education after their graduations by transferring to a four-year college.

The JPO Director who was appointed during the funding period has been instrumental in these project activities and stated that he wishes to continue the work that has been begun as his staff has learned a great deal about the deaf culture and the "mistrust" many students have about the office. He agreed it is critical to develop a method to integrate the JPO into the minds of the students/graduates.

If you are interested in the packet of the Employers' handbook and videotape, please feel free to contact me at <Katb@lagcc.cuny.cuny>.

The Liberated Learning Project:[1] Improving Access for Persons with Disabilities in Higher Education Using Automated Speech Recognition Technology

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Abstract

The Liberated Learning Project, an international research effort spearheaded by the Atlantic Centre at Saint Mary's University, Nova Scotia, Canada promotes the use of automated speech recognition (ASR or speech-to-text) in the university classroom as a tool to improve access to lecture material for students with disabilities. This paper discusses some of the different techniques that have been proposed for ASR in the classroom, reviews several recent investigations related to real-time ASR, and provides an overview of the Liberated Learning Project's role in developing this unique application of speech-to-text technology. ASR has positive implications not only for students and professors, but will also undoubtedly have a significant impact on a much broader scale.

Introduction

Accessibility to higher education for persons with disabilities has been a cornerstone of the philosophy of Saint Mary's University in Halifax, Nova Scotia, Canada for over 30 years. In 1980, the University's first deaf student was accommodated and in 1985 the Atlantic Centre of Research, Access and Support for Students with Disabilities began a formal program of support services to students with a wide range of disabilities. The Centre has since then developed an international reputation as a leader in providing support services for students with disabilities at the post-secondary level. Its programs and individualized support services include individual academic counseling, ASL/English interpreting, academic support, a volunteer note-taking program, alternative examination accommodations, adaptive technology and training in its use.

The introduction of true continuous speech recognition (speech-to-text) products with large, expandable vocabularies engendered a commitment from Saint Mary's University to explore the concept further in connection with increasing accessibility to lecture material for students with disabilities. It was clear that problems existed with both immediate intake of the material and with notetaking for later study purposes. For example, students who were deaf or hard-of-hearing usually required interpreters or assistive listening devices, and relied upon notetakers. As well, students with certain learning disabilities found it difficult to process information presented orally, and other students were physically unable to take their own notes. Finally, the notetaking skills of non-disabled students *were* often far from satisfactory. These shortcomings with both the teaching and the learning processes became the impetus for investigating the use of ASR in the classroom.

Techniques and Recent Investigations

In this section we discuss some of the different techniques that have been proposed for ASR in the classroom and also review several recent investigations related to real-time ASR. We should note

[1] A Project of the Atlantic Centre of Support for Students with Disabilities, Saint Mary's University, Halifax, Nova Scotia, Canada.

that these techniques and investigations are very closely tied to the introduction of several consumer oriented ASR software packages in 1997. These software packages (e.g. IBM Via Voice and Dragon Systems NaturallySpeaking) were the first products featuring large vocabularies and continuous speech recognition made available to the general public. For the first time researchers had easy access to the tools needed to investigate the use of ASR for classroom lectures and other real-time applications.

Three different ASR real-time techniques have been proposed by various groups. In the direct input technique the instructor speaks directly into the ASR system microphone, and the text is displayed in real-time and also saved for post-lecture notes. This technique requires that the instructor be trained in the use of the ASR system and feel comfortable using a wireless microphone during the lecture. The verbatim shadowing technique uses an intermediary (referred to as a 'shadower') to repeat the lecture verbatim into the ASR system. The shadower uses a mask to dampen the speech sounds so that the other people in the room are not disturbed. Because current ASR systems are not always capable of performing adequately when the speech rate is over about 150 wpm, it has been suggested by Ross Stuckless of NTID that an abbreviated shadowing technique may be more useful. In this technique, the shadower would repeat only the essential information in the lecture, producing readable and accurate text. This technique resembles the NTID C-Print technique in many ways.

Several groups have begun to investigate these techniques but overall the field of ASR for deaf applications is still in the very early stages of development. There has only been one conference which has focused on this topic in depth: the Frank W. Lovejoy Symposium on Applications of Automated Speech Recognition for Deaf and Hard of Hearing People held in Rochester, New York in April 1997. This symposium explored the potential of using ASR for automatically converting speech to text for deaf people in a variety of settings, including the classroom environment. This symposium was held before researchers had an opportunity to investigate the ASR software products mentioned above so it does not include results from the more recent software. An electronic copy of the proceedings of this conference is available at www.isc.rit.edu/~ewcncp/Lovejoy.html.

In the Fall of 1998 Saint Mary's University in Nova Scotia, Canada, initiated the first trial using ASR in the classroom. Three professors used ASR systems in the classroom to display the text of the lecture in real-time and also provide post-lecture notes for students. In this trial the professor spoke directly into the ASR system using a wireless microphone and the text was displayed overhead for all students to view. This study concluded that the technology was promising and warranted further investigation and development. This trial established the groundwork for the Liberated Learning Project described elsewhere in this paper.

In the Spring of 1999 Sprint, IBM, and the University of Texas collaborated in a trial at the University of Texas at Austin using the verbatim shadowing technique. The objective of this trial was to investigate the feasibility of this technique for classroom applications and identify the critical elements of the system that needed improvement. This study found that the rate of speech for normal classroom lectures (180–220 wpm or higher) was too fast for the current ASR systems and that extensive training of the shadower was critical to the success of the system. In both of Saint Mary's and UT trials the ASR system was used to augment rather than replace the usual support systems for deaf students. Ross Stuckless at NTID also performed a series of tests in 1999 using the verbatim shadowing technique in simulated classroom conditions. He found that the error rate was unacceptably high even when the shadower was a court reporter who had been extensively trained in verbatim re-voicing of speech in the courtroom. Stuckless concluded that abbreviated shadowing might be a more feasible approach for the classroom.

In the Winter of 1999 Sprint and Ultratec initiated a six month trial of ASR in the Maryland relay service. Although this trial was not held in a classroom environment the relay ASR technique is very similar to the verbatim shadowing technique, and the results have some important implications for classroom applications. In this trial the relay agent re-voiced the spoken telephone conversation in real-time rather than typing it as is normally done. This trial used commercially available ASR software that had been modified so the agent could edit the text before it was sent out to the deaf caller. This editing feature allows the agent to correct the ASR errors so that the agent has more control over the error rate. Although an

official report on this trial has not been released to the public, several beta testers (including the author D. Coco) found that ASR did not provide a significant improvement in the speed of transmission compared to regular relay. In addition, the error rate for the ASR system varied widely from excellent to unacceptable depending on type of conversation and the skills of the agents.

Although ASR has an enormous potential for automatically converting speech to text for deaf people, all of these initial trials have demonstrated that simply asking an untrained speaker to use an off-the-shelf commercial ASR product does not produce acceptable results. These trials have indicated that speaker training is probably the most critical issue in the implementation of this technology. This is not unexpected because the ASR software used in these trials was not developed specifically for real-time applications but rather for dictation applications. This is an important point because there are significant differences in these two applications.

An ASR system designed for dictation can set limits on the rate of speech and on the type of speech that is allowed to provide optimal system performance. The dictation user can usually adjust the rate and content of his speech to meet these requirements. In a real-time application, however, it is usually rather difficult for the user to limit the rate of speech or specify the content of the speech. In addition, the effect of the ASR errors on dictation and real-time users is quite different. The dictation user knows exactly what the output from the ASR program should be (after all, he is doing the talking!), so errors are easily detected and corrected. However, the deaf real-time user has only a vague idea of what the output should be (in a math class the text is expected to be math related) so errors will be more difficult to detect and correct, especially in real-time.

Even if the error rates were the same for the two users, which is highly unlikely, the *effect* of the errors on the real-time user would be much more significant. The dictation user can simply correct the error and move on, whereas the real-time user may completely misunderstand the meaning of the sentence or paragraph. Simply looking at word count error rates may not be the best approach for evaluating real-time ASR systems. An evaluation of the comprehension of the user may be required.

Can speakers be trained to use ASR dictation products effectively for real-time deaf related applications? This is the key question to be addressed. One proposed approach is to train the instructors themselves (the direct input technique), whereas another approach is to train intermediary speakers who might modify or summarize the original speech (verbatim or abbreviated shadowing). No conclusive answers have been provided as to whether any of these approaches will actually work. However, the potential for using ASR to improve access for deaf students in the classroom and in other settings is tremendous, and further exploration in this area is certainly warranted.

The Liberated Learning Project

As mentioned earlier, the Atlantic Centre's pilot project in 1998 found the initial testing of this application for ASR to be enlightening. Brief exposure to the concept suggested it could indeed provide an alternative to conventional note taking for students with disabilities. Serendipitously, it was also noticed that non-disabled students were using the instantaneous display of the lecture as a reference check for their own notes: ASR technology gave students access to both auditory and visual learning channels, helping them better integrate the lecture content. They could also use the software-generated notes to augment their own notes. Therefore, the successful application of ASR technology was seen to have valuable implications for every student in the classroom.

Saint Mary's University received major funding in 1999 from a Canadian foundation, The J. W. McConnell Family Foundation, to further research and refine the unique application of ASR technology to assist students with disabilities in the university classroom. Saint Mary's University is now heading a consortium of Canadian and international partners, both universities and industries. These strategic alliances will help develop, test and evaluate multiple applications of ASR technology in the classroom and its implications for pedagogy and learning.

Project Concept

- Professor develops a personalized voice profile by "teaching" speech recognition software to understand his/her speaking style.

- Professor uses a wireless microphone 'connected' to a robust computer system during lectures. A computer running speech recognition software (project is using IBM's ViaVoice products) receives digitized transmission of professor's speech.
- Using professor's voice profile and acoustic information, the software converts spoken lecture into electronic text.
- Text is displayed via projector for class in real time; students can simultaneously see and hear lecture as it is delivered.
- After lecture, text is edited for recognition errors and made available as lecture notes (electronic or hard copy format) for all students.
- Professor's individual voice profile is continuously updated and expanded through intensive system training.

Project Objectives

The main objectives of the project are to develop and evaluate a model for using automated speech recognition in the university classroom and to focus global attention on this concept as a method of improving access to learning for persons with disabilities. During the three-year period, the project will thoroughly develop and test multiple applications of speech recognition in university classrooms. Global discussions of speech recognition as a tool to enhance teaching and learning will be stimulated. An effective model for using speech recognition in the university classroom will be developed and refined. Finally, an international conference on the importance of speech recognition in the university classroom will be sponsored.

Project Partnerships

Saint Mary's University has recruited several implementation and research partners that are essential to our success, including IBM, Maritime Tel and Tel, and individuals from universities in Canada and around the world, including England, Australia, and the U.S. This team will collaboratively forge the project's development, from the initial planning stages through to the in-class trials and beyond. The project has a mandate to pursue further partnerships and interested parties are invited to make contact regarding potential involvement in this international research consortium.

Partner universities will share a philosophical commitment to addressing issues of accessibility, inclusion of qualified persons with disabilities in academic programming, and providing support services to students with disabilities. They will designate an individual to lead the initiative on site and represent the university at the project level. Partners will attempt to provide resources to enhance the project's overall mission and assist in achieving objectives. Partner universities will be dedicated to implementing the Liberated Learning concept in university classrooms and will share a commitment at a research, technical, or consultative level.

Project Challenges

The Liberated Learning Project involves an intricate interaction of technological and human resources. As with any technological application in its infancy, there are obstacles to overcome before the Liberated Learning concept is more universally applicable. A few of the more pressing project challenges are:

- Improving recognition accuracy. As a professor delivers a lecture, the displayed text must be accurate and convey the intended message.
- Reducing the occurrence of errors. Errors affect the overall conceptual understanding of the lecture and thus remain our primary focus.
- Integrating non-obtrusive punctuation markers. Currently, speech recognition software requires the speaker to actually say the marker in order to have it appear (i.e., speaker says "period" or "new paragraph"). One challenge is to find a nonobtrusive way of integrating these markers to enhance readability and thus comprehension.
- Developing a model capable of effecting better learning and teaching. Professors must be able to learn the software quickly and use it easily. The project will be looking specifically at

the efficiencies of editing a lecture transcript produced via speech recognition software.

- Determining the right mix of associative technologies: sound card, operating system, microphone technology, memory, storage, etc.
- Customizing IBM's ViaVoice speech engine for lecture use.

Conclusion

It was 120 years ago that Alexander Graham Bell, who had strong ties to Nova Scotia, began experimenting with voice recognition to help deaf persons. It seems fitting that a Nova Scotia university is assuming a major role in advancing speech recognition to help persons with disabilities in the classroom. Speech recognition technology may potentially revolutionize the way students and professors interact in a university environment. It has the potential to spark exciting and unprecedented outcomes for both students and faculty. It is the hope of project participants that this innovative concept will be a stepping stone in developing and nurturing an educational environment free of boundaries, where all students have equal opportunity to pursue their educational aspirations.

Effective Tutoring Practices with Deaf and Hard of Hearing Students

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Abstract

In part due to the Americans with Disabilities Act, deaf and hard-of-hearing individuals are obtaining postsecondary educations in a wider variety of programs. However, many programs are new to providing services to deaf and hard-of-hearing individuals and may not be aware of special needs that can arise. This paper targets tutors who may be working with deaf or hard of hearing individuals for the first time. It covers basic communication information, as well as tips and techniques that other tutors have found work well with deaf and hard of hearing students.

Hearing Loss and Communication Preferences

Deaf students and hard-of-hearing students have two very distinct groups of needs. While it is true that both groups have a hearing loss, they tend to deal with the loss in very different ways. Students who are hard of hearing tend to depend upon amplification, speech reading, and print to accommodate the hearing loss. Students who are deaf tend to use sign language. Deaf students may use speech reading to supplement the visual sign language input, but rarely depend upon speech reading alone for communication. They may also identify themselves as members of the Deaf culture. Hard of hearing students typically identify with the hearing culture.

Late-deafened students are those who have lost their hearing after they have acquired speech, often as adolescents or adults due to illness. These students sometimes learn English sign systems in addition to developing speechreading skills. They generally identify with the hearing culture, not the Deaf culture. They may be more dependent on print communication than students with other hearing losses.

Some students you tutor may have a cochlear implant (CI). CIs do not return hearing to normal. You will need to talk with the student who has a cochlear implant to find out if he or she has any special communication needs. Oftentimes, their communication needs will be similar to those of hard-of-hearing students, as they will still use speech reading to supplement what they pick up auditorily.

Communication methods depend upon individual preference, not his or her audiogram. The best thing you as a tutor can ever do is to ask the student what will work for her in a given tutoring situation, and continue a dialogue with the student.

Communication tips. Many people feel uncomfortable when a deaf or hard-of-hearing student approaches them because they are anxious about how communication will occur. In general, though, deaf and hard-of-hearing students expect that you will not know what to do. Keep in mind, some students will be better at communicating their needs than others. Whatever the case, be courteous. This will go a long way toward keeping communication open.

Many people use humor to get through uncomfortable situations, to loosen up new students,

or to get the session going. While a sense of humor is very helpful, telling puns and jokes that are based on sound and plays-on-words may fall flat. While not considered offensive, they simply may not accomplish your objective. Even using an interpreter may not ease the situation. Few of us are aware of how often we use idiomatic language or language that is tied to a context such as television programs (e.g., "Danger, Will Robinson! Danger!," or "Where's the beef?"). Older programs and commercials are not generally captioned, and the student simply may not have had access to them and they will not carry any significance for them. These phrases can and should be explained if the student does not understand, but it is a trade off. Does the phrase add to the tutoring session, or is it superfluous? Does the student catch on with explanation, or does it confuse and detract from your goals?

A nod does not always mean that you are understood. Sometimes, the individual is just trying to keep a positive feel to the communication and will nod in encouragement, recognizing that you are trying. Additionally, when working with interpreters, the student may be nodding to the interpreter as a way to let her know that she has his attention. Always double check that the student understood important information, such as dates and times, by asking him to repeat or write down the information.

Also, be aware of alerting the individual to noises in the environment. If you are chatting with someone and your phone rings or someone walks by and calls your name, let the individual know with an 'excuse me' before turning your attention away and responding. Otherwise, you may come across as abrupt or rude, since the deaf or hard-of-hearing person will not know why you are suddenly distracted or looking away and talking.

Always remember, if you do not have eye contact, you do not have communication. This is very important to remember throughout the tutoring session. Avoid breaking eye contact in mid-sentence (for Deaf students, this is a cultural point and may be interpreted as a lack of interest on your part). Similarly, you may be accustomed to writing or demonstrating and explaining at the same time. The student will not be able to watch the demonstration and 'hear' the explanation (i.e., watch the interpreter or read your lips) at the same time. Instead, remember to do one thing at a time. This may be the most difficult habit you must change!

Gestures can be used to help get a point across. Facial expressions and body language assist in communication. You may find it helpful to establish a particular sign or action for high-frequency words and concepts.

Finally, if the other techniques you are using just are not getting the point across, grab a pen and paper and write it out. It may be a key word that the person is not getting or the entire sentence. Just remember to keep the language simple—write only enough to get your point across. Remember the language needs and skills of the student you are tutoring. If a computer monitor is visible, you might try typing out the message, too. Setting the font to a larger size will make it easier to read at a distance. Hard-of-hearing and deaf individuals greatly appreciate it when someone is willing to take the time to communicate, no matter what medium is used!

Speechreading. After you have gotten the student's attention, then what? Speaking up helps. Enunciating by making a clear separation between words helps. Yelling does not help. Misunderstandings may occur because you look tense, when you are actually trying to talk louder.

You should continue to speak at a normal pace. Be aware of words that may be more difficult to speechread or that may be unfamiliar to the interpreter (e.g., jargon, words that look alike on the mouth).

Speechreading is a skill much like playing the piano: it can be improved with practice, but you might not ever become a virtuoso. At best, only 33% of English phonemes are visible on the mouth. As much, if not more, information is gained through context, facial expression, and body language. Other variables may interfere with speech reading as well, including glare, facial hair, accents, and noisy environments.

You should not expect speech reading to be 100% effective. When the student indicates that he did not hear something you said, you might first try repeating it. If this does not work, do not keep repeating yourself. It may be that that word is not very visible on the mouth or that the student cannot hear the frequencies in that particular word. You might try spelling or writing the word or saying the word or phrase in a different way.

Also, it is very helpful to you if the student indicates what part of what you said he did understand, instead of just saying 'what?' For example, if the student says, 'You want me to look on *what* page?' then you know exactly what you need to clarify instead of struggling through the whole sentence. Not all students will be aware of this useful communication technique. You may need to ask the student to phrase his questions this way.

Using an interpreter. Sign language interpreting is a dynamic process, requiring the interpreter to facilitate communication between two language modes and cultures. Interpreters follow a code of ethics. For example, they are not allowed to participate other than to say what is signed and sign what is said impartially. They often have access to many situations involving deaf individuals, and thus must keep information gained while on the job confidential. There may be some period of adjustment in working with an interpreter to ensure that communication is satisfactory to all participants.

You should remember that most hard-of-hearing individuals do not use sign language. When they do learn sign, it is more likely to be a signed English system rather than American Sign Language (ASL). What may be very useful, though, is an oral interpreter. Oral interpreters use special techniques to mouth everything that is said for the deaf or hard of hearing individual. They are aware of words that are difficult to speech read and words that look the same on the mouth (e.g., bomb, mom), and may paraphrase so that the word or phrase will be understood. Oral interpreters are especially useful so that the hard-of-hearing person will have continuous access to the interpreter's face to ease speech reading, whether or not the speaker has turned his or her head or is looking down.

In group situations, the interpreter will indicate who is speaking and when speakers change, and also noises in the environment, such as laughter, sirens, and alarms. If you are working in groups, you must play 'communication cop.' That is, do not let people talk over each other. It helps to regulate the pace if the student first says his or her name before speaking. Remember, the hard-of-hearing student will not hear what she does not see. If the students cannot be seated facing each other, the hard-of-hearing student will either need an oral interpreter or need all comments repeated by you. Also, the speaker will need to visually identify himself, by raising his hand, for example, so that the student will know where to look.

Many people feel awkward when they first attempt to communicate through an interpreter. You should sit so that you are facing the student, with the interpreter positioned so that the student can see both of you without a lot of back-and-forth movement. In a lecture situation, the interpreter would be next to the speaker. In tutoring situations, however, the interpreter may need to be able to maintain the proper line of sight with the student while at the same time be able to see print materials the student and/or the tutor may be referring to. This in itself may take some adjustment to work out.

Avoid saying, "Tell her..." as this is talking to the interpreter, not the student. Just talk to the student, and let the interpreter take care of the communication. Also, if you want information about the student, ask the student through the interpreter. Do not leave the student out by asking the interpreter "Does she..." The interpreter may or may not have the information; indeed, the interpreter is bound by the Code of Ethics and should not respond with this kind of information.

After the session, check in with the interpreter to see if she has any issues or concerns related to the communication process. Again, avoid talking about the student, instead focus on communication.

Assistive Listening Devices. Many hard-of-hearing students, including those with cochlear implants may find assistive listening devices (ALDs) beneficial. ALDs are portable electronic devices that help hard of hearing individuals hear better by bringing the sounds they want to hear directly to the ear. The tutor speaks into a microphone. The student picks up the sound through a receiver with a volume control and listens through a head set or some other device to get the sound to the ear, depending on whether or not the student uses hearing aids or has a cochlear implant. (Note, the student does not have to wear hearing aids to benefit from the devices.)

Depending on the student, you may still need to maintain visual contact. Nonetheless, ALDs are very beneficial. They help reduce background noise, which can be very intrusive for hearing aid

users (hearing aids amplify everything, not just speech sounds). They also amplify only what is coming in through the microphone, so they help the student to focus in on your voice. This allows the student to attend to the content, and reduces the strain of simply decoding the message. For more information, a paper by the author entitled "Demystifying Assistive Listening Devices" is located elsewhere in these proceedings.

A Note on Notes

Deaf students usually have notetakers for their classes. The reason is simple: to look down to take notes would mean missing the next piece of information, with the end result being the student becoming completely lost during the lecture.

One unavoidable disadvantage of using notes written by others is that these students are missing numerous opportunities to practice writing that students who take their own notes get daily. Without a concerted effort, it may be that the only time the student sits down to write in English is when she must write a paper or answer essay questions on a test. It may be useful to review these notes with the student. Check that the student satisfactorily benefits from what is written and can relate it to the class lecture. As you go over the notes, focus on the content. Have the student tell you what it means. Having the student take notes from the notes is a very useful exercise. It not only helps the student to firm the information in her own mind, but also provides practice in writing.

English Usage Issues

People often, without realizing it, equate English language skill with intelligence. You may assume that students who can speech read (or speak more clearly) are more intelligent than students who cannot. YOU SHOULD AVOID MAKING THIS ASSUMPTION! Especially for Deaf, sign language using students, English language skill level tells you one thing—English language skill level. In these cases, it may help to think of the student as using English as a second language, with American Sign Language being his first language. Hard-of-hearing individuals simply lack the auditory cues to help them evaluate their speech clarity.

It is often said that English is best learned by listening. Think for a moment how much auditory exposure a person with no hearing loss has to the English language. TV, radio, movies, and conversation (even those overheard) contribute to our language learning. Deaf and hard-of-hearing students do not have the same exposure to this incidental learning. In order for the deaf or hard-of-hearing person to 'overhear' something, they must be focused on it visually.

ASL is a three dimensional language separate from English, with its own grammar and syntax. It is a signed language, not a written language. Visually, many things can be communicated simultaneously. A simple example of this might be 'The woman walked by slowly.' The way the woman is walking, and the information that she is walking by would be indicated by a single moving handshape.

You may notice writing problems that resemble the problems of students using English as a second language, such as missing articles, problems conjugating verbs, difficulties with comparatives and absent referents, and misuse of words. Sometimes you may notice that the words are written in an unexpected order. The student may be applying the grammar rules of ASL to English.

The passive voice that is used so often in academic writing and newspapers is absent from American Sign Language. Homonyms can cause confusion for deaf students. Take for example, **run**: run out, run off, run up, run down, run against, run into, run around, run (in stockings). The dictionary lists two columns of uses of the word 'run'. ASL is highly contextual. Each conceptual use of the single word is signed differently in ASL.

You will probably find that understanding the structure of ASL will enhance your ability to explain English. The student must grasp how elements that are expressed simultaneously in ASL are realized linearly in English. It is very difficult to explain in English how to use English. If the student does not have a strong background in either language, it may be that skills in *both* languages need to be strengthened, instead of only focusing on English.

Make sure that the student understands that hearing students must write, edit, and rewrite papers, too. No one writes a paper perfectly the first time. The first draft is usually done to get the

information down on paper. Revisions focus on clarity and grammatical structure. Students often believe that others do not have any problems in writing. The student should understand that everyone's writing is improved with editing.

Reading

Vocabulary. Due to lack of auditory exposure, deaf and hard-of-hearing students may need to spend more time studying new vocabulary. Students should practice, practice, practice: practice spelling the word, practice writing the word, and practice reading what they have written.

Where possible, break down the word into its root, prefix, and suffix so that the student might apply this tool on her own later (e.g., the French 'mort' or 'death' is the root of mortician, mortuary, mortal, mortify). Also, watch for situations where overgeneralization might be a problem (e.g., mortar). Having students use words in context and in sentences that they make up will help you identify problems the students might have in understanding so that you can help them understand the limits and exceptions to the rule.

Suppose a student has a list of vocabulary words she must memorize. One way to do this is through a 'fold and compare' technique. The student would first list all the words in a column on a piece of paper. The student would then write definitions for each word in another column. Then the student would fold the column of words so that it is hidden, and write the correct word next to the column of definitions. Then the definition column would be hidden and the student would rewrite the definitions in yet another column. Other techniques include fingerspelling or writing the word until memorized, and using flash cards.

Advance Organizers. Students who have difficulty with reading may need a great deal of support pulling information from reading assignments. For example, some students may not be fully aware of how to use headings and other advance organizers to help them navigate through a reading assignment. Knowing what you are about to read can aid comprehension as you move through an assignment.

One helpful method that teaches the student to be very interactive with the reading material is called SQ3R. It involves surveying the materials, questioning what you are about to read, actively reading it, reciting information from the reading, and then reviewing that information. If you are not familiar with SQ3R, more information is available on it from the Tutoring and Writing Links website at http://www.wou.edu/nwoc/tutorlinks.htm.

Study questions. Research has been conducted showing that deaf students who are poor readers, when given study questions to guide their reading, performed similarly to skilled readers given text only in tests of immediate factual recall. See Dowaliby and Lang (1999) for more information.

Check for Knowledge. When you are checking for understanding with a student, avoid asking yes/no questions. Students may be reluctant to admit they do not understand the content, or may nod in agreement to keep the interaction feeling positive rather than to indicate their level of understanding. Do ask open-ended questions that require the student to respond with the content. If the student is having difficulty pulling the concept together, ask the student how he would explain it to someone else, such as a friend or a child. Always have the student use new concepts and vocabulary in a sentence or paragraph. Examples of these probes include: compare, contrast, criticize, define, describe, discuss, evaluate, explain, illustrate, interpret, justify, list, prove, relate, review, summarize, and trace. Using these types of probes with students to check their level of understanding on the subject will also teach the student critical thinking skills they can use for life.

Writing

Grammar. Make sure that students not only know the rules of English, but also are also able to apply them. Some students find that it helps to actually sign the sentence instead of just reading it when they are looking for errors.

Provide many opportunities for practice. If relevant, have the student keep a journal or communicate with you through e-mail so that writing becomes an everyday task for him. Explaining English grammar using English can be very difficult. Make your explanation, but follow it up with many, many examples. Help the student to

experience the information for himself. It will be remembered much better than the interpreted message. Some exercises are conducted by filling in the blank.

Use as many visual cues as possible. For example, use colors to indicate pluralization, nouns vs. verbs, articles, etc. Using the same color for the same part of speech each time will help the student to identify to what category the word belongs. Students can use pens with 4 colors in one for some of these assignments. It may help students if they do not erase their mistakes, but write the corrections above their original answers.

Finally, be sure the student is able to generalize from examples given by the professor. The student may only be able to give back examples identical to those provided in the classroom. Practice with generalization helps to firm conceptual grasp, as well.

Organizing Information. When the student has information that he needs to organize, such as writing a paper, developing a mind map is a useful technique. This graphic representation of the topics to be covered often helps the student to develop the topics more fully. One computer program that is very useful for this purpose is Inspiration. Examples of mindmaps can be found on the Inspiration website http://www.inspiration.com. The main idea is placed in the middle, and the related ideas are placed around it, with arrows to show the connections between ideas. Mapping out ideas is such a successful technique, that many educational programs have students write papers totally using programs such as Inspiration. These computer programs make it easy for the student to manipulate the relationships between ideas, allow for easy editing, and can convert the map to an outline, and vice versa.

What if the student does not have access to this kind of a program? Students can also write out ideas on separate cards. These can be moved around until an appropriate fit and order is found. Colors can be added to indicate subordinate levels.

While maps and charts are very visual and graphic, outlines are very linear. Word processing programs such as WordPerfect and Microsoft Word make outline construction much easier than in the past. Ideas can be easily moved around until the desired order is found.

Style. While tutors must avoid proofreading papers, there are several things he can do to help the student improve her writing. Watch for patterns in the student's writing, and help the student to identify these patterns. Strategize with the student about ways to resolve negative writing patterns. For example, the student may use the same transitional phrases repeatedly. Point this out to the student, and help the student brainstorm other possible transitional phrases. Maybe the student uses a particular word repeatedly. Word processing programs can provide help in choosing alternates, but the student must be wary of nuances in meaning.

Help the student with the flow (remember, the student can't hear how it sounds). Ask the student what he is trying to say. You may need to help the student break the paper into sections (mapping and charts can be very useful for this). Identify problems within each section, and help the student evaluate quality: Is the introduction clear? Is the idea well developed? Are there transitional sentences? Is there a closing or summary for the section?

All papers can be improved with proofreading and rewriting. The student should try trading papers and getting feedback from friends. Finally, students must plan ahead when writing papers. They cannot be put off until the last minute. You may need to help the student develop an organizational plan or time line for writing the paper that would include gathering research, reading resources, developing an outline, writing the draft, revising it, and finalizing the paper.

Math and Sciences

Math is a subject worthy of strategically planned tutoring steps for deaf students. Problem-solving strategies are key to success in math. Students' problems in mathematics vary. He may tend to work quickly and make errors; be unable to identify and sort out relevant features of a problem situation; or misunderstand the problem goals.

Always have the student write out every step until he is firm in his understanding of the process. When you are talking through steps, especially if you are working through an interpreter, be sure to pause between each step to give the

interpreter a chance to finish conveying the message and the student a moment to process the information. As with English, it is helpful to use color to identify different operations. It also may help to indicate that you are moving on to another step if you draw a line or change colors. If you are working with formulas, talk through the formulas, and then show with an example. Again, students will remember things much more easily when they have understood it for themselves than when they are decoding an interpreted message. Teach by using many different examples. This will help the student to make the connection.

Talk strategy before attempting the problem. Research has shown that modeling and discussing problem-solving strategies does help students learn how to approach problems. Explain to the student how and why a problem should be solved a particular way. Then when the student is preparing to solve problems, have the student explain, in his own words, how he would approach a problem and why. Always have the student convey to you *what* he is doing (this helps to firm the information in his own mind) and *why* he is doing it. Help the student massage less complete statements into more complete statements (e.g., 'We're doing LCD' into 'We're combining algebraic fractions and using common denominators'). Asking students reflective questions about their problem-solving procedures using the evaluative probes listed above can be very enlightening for the student.

Find out if the student is allowed to use calculators in solving problems, and then use them to their fullest, including fractions and graphing calculators.

With word problems, extra care must be taken to be sure that the student understands the English, and then understands the math that would solve the problem. Where possible, keep it functional. Relate the information to something the student might need to do. This will help keep interest high and maintain motivation.

Graphing out or sketching the information can be very helpful in getting the student to visualize the problem. A drawing of 'A person heads north for three miles, then turns east' or 'A line is tangent to a circle' is immediately understood.

Students may benefit from developing a 'cheat sheet' that lists the variety of vocabulary found in word problems and their symbol equivalents. For example, in a word problem the subtraction symbol might be communicated by phrases such as 'decreased by,' 'less than,' 'difference,' 'diminished,' 'remainder' or 'reduced.'

Summary

Ultimately, students are responsible for their own education. Tutors are responsible for helping students learn which study skills work for them so that they can survive on their own. Many new students do not understand this and will have unrealistic expectations of tutors.

Set up ground rules at the first session and let the students know what to expect. Taking the student through a series of quick questions at the end of each session will help him review his progress and reinforce the idea that he is the one doing the work and making the progress. Simply asking the questions that review progress will help the student who may have never thought about the process apply the information to other tasks he encounters.

Especially in tutoring around English writing skills, realize that the student may have had many negative experiences. Face resistance with a positive attitude. Encourage the student to try. Help them to develop a positive attitude. Regularly remind the student of the progress she has made.

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Make A Difference: Tips for Teaching Students who are Deaf or Hard of Hearing[1]

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Abstract

Teaching college students who are deaf or hard of hearing can be a unique challenge, especially for faculty who have little or no experience in this area. A strategy for training faculty efficiently and effectively is the focus of a video "Make a Difference: Tips for Teaching Students Who are Deaf or Hard of Hearing," covering topics such as classroom setup, interpreters, technology, academics, communication, and specific teaching methods and strategies that other faculty have found successful. This video is now accompanied by a handbook designed to be used during training sessions with the video. Both the video and handbook are available on the PEPNet Resource Center.

Make A Difference

Project PEC (Arkansas' Statewide Outreach and Technical Assistance Center) at the University of Arkansas at Little Rock has developed a 15-minute teacher training video for faculty entitled "Make A Difference: Tips for Teaching Students Who are Deaf or Hard of Hearing." This video is an integral part of a strategy to train faculty members who are teaching these students at the postsecondary level and who have little or no experience working with this population. Although this video was intended for postsecondary institutions, it could be used effectively at the secondary level as well. It is an efficient and effective training tool for faculty who are already inundated with students, classes, and departmental responsibilities. Faculty may have little time to concentrate on the unique challenges of teaching college students who are deaf or hard of hearing. Because the success of these students is based not only on appropriate support services but also on effective instruction techniques, innovative training tools for faculty are critical.

Using a mock classroom and a host who brings expertise and experience to the role (she is deaf, a teacher for deaf students, and attended mainstream schools), this clear and concise video incorporates a comprehensive range of topics and situations related to teaching students who are deaf or hard of hearing. Topics include physical aspects of the classroom, communication, using interpreters, using assistive listening devices, notetaking, reading materials in the classroom, technology, visual aids, difficulties students may have with reading and writing, teaching math courses, and helpful tips from other faculty members.

This video was written and produced after surveying secondary and postsecondary faculty of deaf and hard of hearing students. Several skilled deaf educators reviewed the script before production.

Through the development and dissemination of this video nationally and internationally, it became apparent that written guidelines supporting the information provided in the video would be a useful tool for faculty as well

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as those using the video to present inservices and workshops. A detailed "Make A Difference" handbook has been developed that supplements the video. The handbook provides more in-depth information and includes additional resources available nationwide. The video and handbook combination provides training that should enhance the classroom experience and improve opportunities for success of students who are deaf or hard of hearing.

Not only are the video and handbook helpful for teachers, but they are also an excellent tool for inservice presenters. The video is divided into six major categories with a place to pause the video after each one. The script from the video is provided at the end of the handbook, and it includes information on where the tape can be paused. By being structured in this manner, the video and handbook complement each other and can be readily used to provide outreach and technical assistance in at least three ways:

1. Individual faculty members can use them autonomously,
2. School administration can use them during departmental meetings, or
3. The video and handbook can be used as part of an inservice training, permitting discussion and question/answer time after each major topic.

The handbook and video are available for distribution nation-wide on the PEPNet Resource Center web page loxated at <www.pepnet.org>.

Mentoring: A Pivotal Support Service

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The concept of mentoring and the role of the mentor are as old as Greek mythology and as new as today. Over the centuries it has been recognized that the novice in any area of endeavor has the need of an expert, a seasoned veteran in that field to provide him or her with the guidance and incentive to succeed in a sometimes-unfriendly world. Daloz (1986) has put it in almost-poetic terms:

> Mentors are guides. They lead us along the journey of our lives. We trust them because they have been there before. They embody our hopes, cast light on the way ahead, interpret arcane signs, warn us of lurking dangers, and point out unexpected delights along the way. There is a certain luminosity about them, and they often pose as magicians in tales of transformation, for *magic* is a word given to what we cannot see, and we can rarely see across the gulf. (p. 17)

Not everyone can say they have had a true mentor in their career, but virtually everyone has been mentored by someone, somehow, somewhere along the way. In the field of education, mentoring has often been considered as synonymous with advising. But, as Daloz points out, this idea is only partially true.

> Mentors generally have a wider role than conventional faculty advisors. They may or may not teach classes, but they are inevitably engaged in one-to-one instruction and are consequently more concerned than regular teachers with the individual learning, needs and styles of their students. What makes the difference is their willingness to care - about what they teach and whom. They know they exist as teachers only because of their students; they know they are part of a transaction, a relationship. (pp. 18-19, 20)

Whether or not a person has an official mentor, the practice of mentoring is an important one in fostering the growth and success of college students (Campbell and Campbell, 1997). The student who becomes lost in the crowd, regardless of the size of the college or university, rarely has a profitable educational experience and seldom succeeds to the full extent of his/her capacities. Research on student retention (Tinto, 1988) has clearly shown the need for students to establish links with significant persons in the college environment within the first few weeks, even days of their arrival, if they are to stay in the school.

What does mentoring mean or require when dealing with students with special needs, especially deaf and hard-of hearing, students? This paper will briefly explore the implications of this question in several ways. The role of mentor and the practice of mentoring will be distinguished from one another with the emphasis on mentoring. Also introduced will be

the notion of group mentoring, and how it can fulfill the role of mentor, differently than that of the single individual. As a concrete example, the monitoring, as it is carried out in support departments at the National Technical Institute for the Deaf (NTID) at the Rochester Institute of Technology (RIT) will be examined. The literature which is reviewed in this paper contains few references to mentoring for disabled students, specifically, and none in regard to deaf and hard-of-hearing students. Therefore, the field is ripe for investigation and thinking about this crucial support we provide to these students.

Background

The importance of mentors and mentoring is well recognized in the research literature. Success in a profession, in business, and in pursuing an academic career can be strongly influenced by the relationship between a mentor and protege (Gasorek 1998; Hansman 1998; Madison and Huston, 1996; Shea 1994). These and other studies have shown the benefits of the relationship between a novice in the field and an expert, experienced, and knowledgeable individual who takes that novice "under his/her wing." Mentoring has also become an important part of the effort to work with youth who are disadvantaged or considered to be at-risk for a variety of reasons (Dollarhide, 1997; Woodlief, 1997; O'Connor, 1995). Publications such as Kaplan/Newsweek's *How to be a Great Mentor* (n.d.), special programs, handbooks and other materials (Takahata, 1993; Lees and Carruthers, 1997; Windham, 1999) as well as the use of the internet (Aune, et al., 1997; Sumner, 1998) all demonstrate the current interest and acknowledged benefits to this practice.

In studying further education and higher education, a number of studies have shown how a faculty/student mentoring system can improve student achievement, retention, and satisfaction with their academic programs and with university life (Campbell and Campbell, 1997; Wood, 1997; Canton, 1995; Ross-Thomas and Bryant, 1994; Smith, 1995; Turney, 1998; Wallace and Abel, 1997). Programs may even extend to working with alumni in some situations (Jackson, 1998). The effect of mentoring on the learning process has also been studied, and this focus is not a recent development (Daloz, 1986; Heuer, et al., 1996-97; Highsmith, Denes, and Pierre, 1998; Ricks and Van Gyn, 1997; Salerno, 1998). Students also see benefits to mentoring relationships (Karje, 1996; Tuckman, 1996; Turney, 1998). It is also recognized that students who have special needs benefit from mentoring (Aune, et al., 1997; Wolfe, 1991).

Successful Mentoring

Components of Successful Mentoring. Successful mentoring depends on developing good relationships with students. A number of key components have been identified (Goodwin and Munt, 2000) as aspects of mentoring success. These components include:

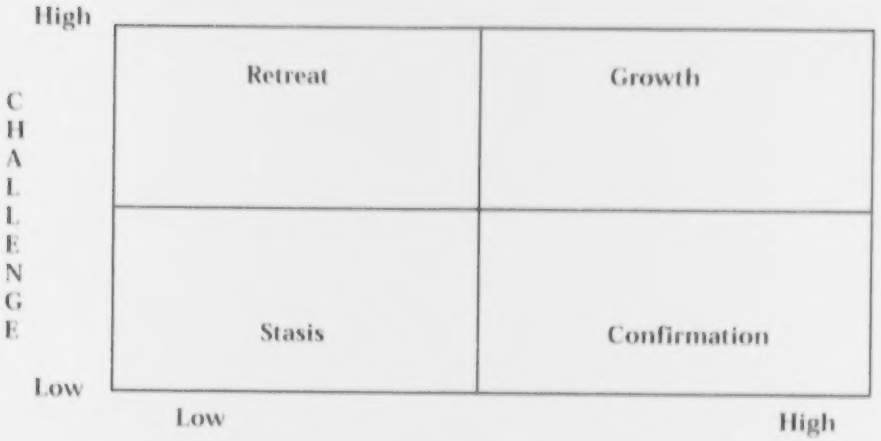
1. Engendering Trust. This means meeting the student where he/she is at the moment by listening and being non-judgmental. It means offering praise and encouragement and creating the confidence that mentor and mentee can work together.

2. Providing Support. This factor means "being there" for the student. Listening and providing positive expectations and structure are important aspects of support. Support is often difficult to balance with the next one, Issuing a Challenge. Both are needed to foster growth and independence. Too much support merely reinforces existing behavior if there is no challenge. Too little support in the face of high challenge, however, leads to retreat and failure.

3. Issuing a Challenge. This means constantly raising the bar while acting as an ally and advocate. Set high standards, but check their reality and relevance. Start small, making minor changes and demands rather than demanding too much too soon. The relationship between effective support and effective challenge is shown in the diagram below (Goodwin and Munt, 2000).

Figure 1. Mentoring

The Effects of Support and Challenge on Development



Supportive Functions
Listening
Providing Structure
Expressing Positive Expectations
Sharing Ourselves

Challenging Functions
Setting Goals and Tasks
Engaging in Discussion
Constructing Hypotheses
Setting High Standards

Adapted from Daloz (1986, p.214)

4. Providing a Vision or Context. This requires that the mentor be a role model who shares his/her own processes and experiences. It means being a mirror for the mentee and providing feedback.

Mentoring deaf and hard-of-hearing students. At least three issues come to mind in considering work with deaf and hard-of-hearing college students. The first of these is somewhat self-evident. This is an awareness of the need for effective communication along with a knowledge of deafness and its educational implications. But, it is also important in this regard that the needs and requirements of individual students be considered carefully. Certainly, not all students are alike! The second issue is concerned with having a place for students, a home base of sorts. A support office or department is in business to serve students more than it is there to manage services, however necessary that function may be. This means it is a place where students are comfortable and want to "hang out". It becomes a place where students can be themselves and actually mentor one another. The third issue is staff morale. It is important to "take care of the caretakers" or "mentor the mentors". People who work with special needs students in general, and deaf students in particular, have very little status or recognition in the college setting. How can a department or institution provide the kind of support that is necessary for people to thrive in their support function? This is not an easy question to answer but one that needs careful consideration in the overall picture of providing mentoring and support services.

The Team Approach. Mentoring mainstreamed deaf students requires many different skills and areas of expertise. Therefore, a team of individuals can be the most effective in dealing with student needs. This team may include faculty, staff, counselors, and access providers even if one individual deals with the student most directly and might be viewed as the mentor. The mentor/team approach means that the student has many avenues available to handle various challenges in his/her academic career but also has the benefit of establishing a strong relationship with one individual.

How does the mentoring team approach work? It depends, first of all, on having close and frequent communication among its members. In the second place, it requires that all members of the "team" have knowledge of and a relationship with each student. Team membership, thus, will vary depending on a particular student and that student's needs. Membership may also change as a student progresses through his/her academic career and needs change. The word "membership" is used very loosely in the present case denoting an informal rather than a formal set of relationships. For example, a student's support advisor may confer with several of that student's tutors in order to determine needs in academic programming. Or, an advisor may work with a career or personal counselor who helps the student select an appropriate academic program or deal with a roommate problem.

In the third place, the student is really a part of the team as well. Activity does not really go on behind the student's back. The student may not be actively included in every discussion but will be aware of the network of support he/she has available. The mentoring team is a group that literally follows a deaf or hard-of-hearing student along from freshman entry to graduation and sometimes beyond as well.

The NTID Experience. Deaf and hard-of-hearing students supported by the National Technical Institute for the Deaf (NTID), who are mainstreamed in the other college of the Rochester Institute of Technology (RIT), graduate with a bachelor's degree at a rate comparable to their hearing peers at the institute. This rate is well above graduation rates for deaf students at other educational institutions across the country. It is true that many of these students are highly qualified and receive excellent access services for their classes as well. However, many students who go through these programs enter through NTID not fully qualified to be accepted to a baccalaureate program. The success with which NTID has taken these and other students through to completing their degrees can be attributed in part to the diligent efforts of the faculty and staff who work with them in support departments.

The versatility and dedication of one who mentors are key factors in their success, because the position is one that demands that the individual adapt constantly to new situations and needs. Support faculty at NTID/RIT provide advising, tutoring, classroom instruction, and the like. Other staff help students to obtain access services and to negotiate their way through the system. True, not all students may take advantage of mentoring. However, most students benefit from these relationships to whatever degree they use them.

Faculty mentors in support departments at NTID/RIT have some characteristics in common. They are highly qualified in a content area, are knowledgeable regarding deafness, and are able to communicate directly with deaf students. Although the support faculty may initially work with the student, the college program advisor may be or become the student's mentor. The faculty member in the support department will assist in supporting that relationship, continuing to provide a form of mentoring.

It is not only faculty members who serve as mentors, however. Interpreters and interpreting managers, notetaker coordinators, and secretaries also serve a mentoring function in support departments and contribute significantly to the network of support that helps to ensure student success.

How can the mentorship concept be used in institutions with few deaf students and no support faculty available? Mentorship can exist on many levels. A trusted relationship with one individual is certainly the most desirable. A support provider can fulfill that role using all available resources. However, mentorship with program advisors can be fostered through careful negotiation and may ultimately be of the most benefit to students. The goal of mentoring is clearly to help students to fully access the opportunities available to them in their academic careers.

Conclusion

The intention of this paper is to offer background, give examples, and begin to raise issues and concerns regarding mentoring for college students who are deaf or hard-of-hearing. There are many questions yet to be raised and investigated. Clearly, there is a need for research in this area. But, there is also a need for practitioners in the field to share their experiences and to create a body of knowledge that will aid all who work with these students. Being deaf or hard-of-hearing in higher education is a daunting, challenging situation. Beyond good access and educational support mentoring can help to foster student retention, graduation, and success.

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Statistics is NOT for Dummies! Getting the Mean, the Mode, the Median... and Everything In Between!

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Abstract

The project described in this article was initially designed to address the needs and unique learning styles of deaf and hard of hearing students in lower division General Education Math classes. At California State University Northridge (CSUN) these classes include Math Ideas (Math 131) and Introduction to Statistics (Math 140). Although the research was conducted at Cal State Northridge, our findings lead us to believe that the project is replicable in other postsecondary institutions.

Background

The initial investigation of students' success in these lower division courses led to the findings that from Fall '96 through Fall '97, 27% to 50% of deaf and hard of hearing students received grades of D or F in one of the two lower division GE math courses. This led to the questions:

- Where is the problem?
- Are the students not capable of learning this level of mathematics?
- OR is the instructional methodology flawed in some way?
- OR do additional classroom and tutoring support make a difference?

A brief review of research in math by Dietz (1991) showed that communication as well as computation in mathematics is a critical determinant of success. In addition, students who write/discuss concerns, questions, and points of confusion become more confident in their math abilities. Learning to communicate mathematically allows students to become mathematical problem solvers.

Our analysis led us to compare the receptive modalities of hearing students and those of students who are deaf or hard of hearing. Hearing students receive information auditorily/directly; furthermore, they are able to engage in dual tasking. In other words, students are able to listen and watch simultaneously. This allows them to ask questions immediately and receive closure where gaps exist. Students who are deaf or hard of hearing, on the other hand, depend on visual reception (sign language interpreter or realtime captioner) and receive information asynchronously. Potential discrepancies between instructor and interpreter exist (e.g., "move this here"), as well as delayed opportunities to ask questions. Additionally, hard of hearing students may receive distorted information.

Table 1 below presents the summaries of performance by deaf and hard of hearing students in Math 140 for the Fall '96 through Fall '97 semesters. As can be seen in this table, 58% of deaf and hard of hearing students were successful in math classes; in other words, they passed with the grade of C or better. The research assumption is that the gap in communication and the discrepancies in information presentation are the primary factors in the low achievement (grades of D and F) for the remaining 42% of deaf and hard of hearing students in these two lower division, General Education Mathematics courses.

Table 1.

Academic Grade	Fall '96 (n=15)	Spring '97 (n=11)	Fall '97 (n=10)	Total (n=36)
A	0.00%	0.00%	0.00%	0.00%
B	6.70%	9.00%	20.00%	11.00%
C	46.70%	64.0%	30.00%	47.50%
D	13.30%	27.00%	40.00%	25.00%
F	33.30%	0.0%	10.00%	16.50%

Project Objective

As a result of this background analysis, the objective for the project developed as follows: Specialized instructional components and teaching techniques will enable students to complete Math 140 (Introduction to Statistics) with a passing rate of 75% or better and no dropouts. The innovative element was the idea of a "Class Assistant." The Class Assistant would have a background in mathematical statistics, in the mathematical learning process, in the learning styles of students who are deaf or hard of hearing, and the sign language skills necessary for direct communication. It was determined that the Class Assistant would develop a partnership with the Course Professor and would also provide supplemental instruction through group tutoring, individual tutoring, and in-class support. The Class Assistant was not to be the Course Professor for the deaf and hard of hearing students. Additionally, the course was to be staffed with an interpreter.

The proposed impact of this experiment was that students who successfully complete this Math 140 course will have met their General Education requirements and will be better prepared for other upper division mathematics courses which might be required in the undergraduate or graduate level majors.

Project Implementation

Personnel for the project were selected in the Spring of 1998 so as to get the course listed as being offered by the Math Department. Dr. Mark Schilling, a professor with more than fifteen years of experience in teaching Statistics and Mathematics, was asked to teach the course. Art Caplan, an interpreter and Math tutor at the National Center on Deafness, was offered the position of Class Assistant.

Why was the Statistics class selected over the Math Ideas class? Math 140 (Statistics) satisfies both the Math requirement in General Education and the Statistics requirement of several majors in the university, such as psychology and sociology. It was determined also that Math 140 would prepare students for other statistics courses required at the upper division or graduate level.

The project was undertaken during the Fall '98 semester with 28 students enrolled in Dr. Schilling's Math 140 course. Seventeen were deaf or hard of hearing students and eleven were hearing students.

Findings

To reiterate, the project objective was that specialized instructional components and teaching techniques will enable students to complete Math 140 (Introduction to Statistics) with a passing rate of 75% or better and no dropouts. Table 2 shows the grades received by the deaf and hearing students in this Fall '98 class.

The results of the Project, as shown in Table 2, suggest that:

- There is clearly evidence of successful achievement by students who were deaf or hard of hearing;
- This project can be replicated in other math classes;
- This design is applicable to courses with smaller populations than the Fall, Math 140 course; and
- This support is relevant to any student with disabilities.

At the end of the semester students were asked for their comments and feedback. Their responses included the following statements:

"I liked the fact that most of us students were motivated to learn more about statistics. People

Table 2.

Academic Grade	all students n=28	deaf students n=17	hearing students n=11
A	7.14%	5.88%	9.10%
B	32.00%	35.30%	27.30%
C	28.60%	41.20%	9.10%
D	21.40%	11.80%	36.40%
F/U	10.70%	5.88%	18.20%
Dropped		0	
Summary			
Passing (A-D)	89.30%	94.00%	81.80%
Failing (F)	10.00%	5.88%	18.20%

look at me a little strange now when I say that I enjoy statistics."

"Art was a fantastic tutor. I entered the class very unmotivated and unsure of my ability to grasp concepts. But after a few sessions with Art, I ended up loving the class. I ended up surprising myself."

"I think that direct communication and contact are essential, especially in a math class setting."

"I loved how the professor was very patient and the tutor, Art, was very motivated to help us. I also like that there were a lot of deaf and hard of hearing students, because we all studied together and it helped for test preparation."

"I liked best the pace, Dr. Schilling's availability and understanding to meet my needs."

"I would suggest more in-class activities and more sample problems to help with preparing for tests."

"The special tutor [allowed for] direct communication through ASL."

"I liked best the times when I was finally able to understand the math problems."

"Everything in the class was fine. If I were better prepared, I'd have gotten a better grade, but I am satisfied with the 'B' I got."

Summary

What follows is a summary of the statements made by the presenters at the PEPNet Conference.

Dr. Schilling: Teaching this class was a great experience, much because of the support services provided. I don't know how many of you noticed, but not just the lower end of the grade curve but the upper end of the grade curve showed great improvement. In previous semesters there were 11% As and Bs, while there were 40% during the semester we ran this project. In the past I've had deaf students, but never more than three or four at once. The large number of students in this class emphasized the fact that we were dealing with three languages: there is sign language; there's mathematics; and there's the primary challenge for students, all students, language. That language not only contains technical terms, but also various symbols, Greek letters, and letters with funny marks on top of them. Dealing with these three languages was quite a challenge.

One surprised me at first. I guess I was trying to be even with everyone, when a couple deaf students said, "Can we all sit on this side, please, so we can see the interpreter better?" So immediately the class was segregated, deaf students on the right, hearing students on the left. This was fine, but it was unexpected.

I give a lot of prompts when I lecture. I wait for a student to fill in an easy answer for a quick response, and you can probably guess what happened. When I would give such a prompt, immediately the hearing students would call out an answer, or possibly raise their hand, but in either case they would answer before my prompted question was even completely signed to the other half of the room. So this was a situation where I had to learn to hesitate and ignore any response until the signing was completed.

A particular issue that came up in this class was the use of computers. We used the computer lab for about ten days of the total 45 class meetings, and the computer lab presented an additional challenge. In that environment, the students have to look at the the board and the computer monitors. Throw in the need to watch the interpreter as well, and the deaf students were frustrated. Furthermore the monitors are big and tall, so students couldn't even see around them. So this was a particular problem that was difficult to control and forced me to considerably slow down my presentation.

My course is an activity based course as opposed to the traditional textbook course which requires a significant amount of reading. The text we used required more in-class activities. The reading skills of all students at Cal State Northridge are pretty weak, and this is a particularly acute problem for the deaf and hard of hearing students. So I felt that this model worked better in getting students on task with activities in class. It certainly resulted in dramatically improved performance for everyone! I would walk around and check on student work. With deaf students it is not effective to just look over their shoulders and say "Good" or "Do this a little differently," because I want to be able to do this quickly and move on. But I had to have an interpreter follow me around in order to do this. We were in a very small room, and it was hard enough to weave in and out with two people and sometimes three with Art there.

Another issue was that sometimes we had different interpreters on different days. When we had our regular interpreter, things went well. But on days when we had substitute interpreters, it was a big, big problem. In mathematics courses especially interpreters need to know the symbols. Not having the background, the substitute interpreters would have to spell out "hypothesis testing" and "confidence intervals" and all these words. The result was that they would fall behind and not quite understand what I was talking about.

The hearing students in the class adapted to the environment of having a large number, really a majority, of deaf students quite well. I think part of that was the fact that they realized that the pace of the class was somewhat limited. And they were happy to have a nice, even pace, not a rushed pace for themselves as well. So it worked quite well. But I didn't give them any overt advice advice, like "Hold up" or "Don't answer until everybody has a chance."

Does the project design influence the course process and outcome? I would say it does limit the pace a little bit in terms of how much can be covered. Is this a bad thing? I don't think so. I think a number of faculty have talked for some time about the fact that all of our courses cover too much material too fast. We should probably knock it down to 70% of the material, and let the time dictate what you could cover. But I was still satisfied with what we covered.

The course did not require much more planning time than is normal. The additional time involved meeting with Art and making sure that we were "on the same page." We did that on an "as needed" basis. One thing I would do in the future is to make up some sort of a glossary, a list for interpreters at the beginning of the semester, with the technical terms and the symbols, so that they know in advance that these are the things they are going to have to sign. Maybe the students can work out some sort of quick signs for specific vocabulary so interpreters don't have to spell out everything.

I think that one of the most important features of this model is to have someone who is a very capable tutor. Art was really wonderful. He's really an expert in statistics. It's a difficult subject, so having someone convey exactly just the things that I was trying to say was truly essential. I think that group tutoring and the fact that there was such a large group of deaf students who were able to meet as a group was a good model. A lot of times one student will stipulate what another student hadn't thought of or couldn't even express. So those are just some of the experiences I've had teaching this class. I really enjoyed it, and I saw it as a success.

Mr. Caplan: I guess I'm batting "clean up." Who understood what I just said? Batting "clean up?" This is kind of a simple sports analogy. This is a cultural point, the kind of example that comes up in classes over and over again, and causes an amazing amount of confusion for a simple statement with a simple meaning. Culture, culture of all kinds, comes up in statistics because that's the application of statistics. It's applied to culture, it's applied to politics, it's applied to everyday activity. Gaps in cultural awareness often show up in students' experiences, whether they're hearing or deaf or hard of hearing.

In keeping with my role as Class Assistant, I did go to every class meeting. I took notes, and I

watched very carefully what Dr. Schilling was presenting; I wanted to be able to emphasize the same points and use the same examples in the out-of-class sessions that I set up. I call this "supportive teaching." I know that it is usually called "tutoring," but it felt different than just regular tutoring sessions. I was borrowing the direct ideas from the classroom and coming up with a good deal of additional material to emphasize the same concepts. I offered about seven hours a week, sometimes up to ten or twelve depending upon which week students needed the additional support. The students would come singly, sometimes two or three, sometimes up to eight or nine typically before a test.

So, what did I notice? Would you be surprised to hear that one of the biggest problems in a statistics paragraph is not statistics vocabulary but some of the English vocabulary and culture which is mixed in with it? Take, for example, the phrase "term limit restrictions." Does that mean there's a restriction on the limit? Or the term? This may seem very confusing, but it is typical in the statistics book. So this type of problem would cause vocabulary questions not related to statistics at all. And much of my time in my supplemental instruction was really involved with translation: translation of culture, translation of English, and of couse, translation of statistics.

In terms of tutoring strategies, I particularly like everyday examples. I used material that the students could relate to, ideas from their experiences, so there was no confusion with culture outside their experience, no confusion with any other English related problems. Just direct, simple examples to emphasize the statistics. Of course, I answered many questions about homework; that's kind of normal for any kind of tutoring. But more than that, I brought in and made up many examples of some problems using the formulas, using the concepts from the class, specifically those concepts that Dr. Schilling was using that week. Prior to the test I brought in many sample problems and study guides, true/false questions, fill in the blank questions, calculations, and explanations of the answers. What is required in statistics is the ability to comprehend what you have observed. Students would practice writing an English sentence, explaining what they just found.

All our communication was direct sign communication. I required students to solve problems on the board. I would ask them questions to make sure they understood the point, not just show them how to solve it, but make sure they could explain it back to me. So I really was pulling out the information more than just trying to build it in.

If you went to the Plenary Session this morning, you may have heard Harry Lang describe the characteristics of effective teaching, characteristics that fit our model. Direct communication. An interactive approach, such as when we pull out answers and the students communicate ideas back to me. Participatory learning, where students talk with each other, support each other, and answer questions in front of me and each other.

Let me say a word about interpreting in a Statistics class. When Harry Lang mentioned effective teaching, one of the important criteria he emphasized was knowledge of content for teachers. He emphasized that point. I would suggest that that's equally important for the interpreter in the classroom. If the interpreter doesn't know what's going on, then the deaf students are not being served with a clear picture of a very complicated topic. It's like the teacher is leading them through the dark forest of Statistics at night time. The interpreter only brings this to light if they can understand what's going on.

Notes are another issue that gets easily overlooked. It's a struggle for deaf students to take notes themselves because that means they're looking down and up, and it is a struggle to receive all the information. Often what happens in the classroom is that another person is taking the notes, and the notes are given to the deaf students later. That is fine, except the teacher often expects that as lessons progress, definitions, formulas, explanations, and examples that are in the notes are in front of the student during that class period. And they're often not. Several deaf students have expressed the frustration of having the information go right past them. They say that they just expect that they'll "get it" later when they get the notes at home. So they are essentially blocked from that first opportunity to interact with the material in a meaningful way.

Ms. Treiman: In regard to the financial support for this project, we were able to secure funds through the Judge Julian Beck Grant that is offered at our university for innovative teaching strategies. The grant sum of $5,000 paid for almost all of Mr. Caplan's time in class and outside of class and accommodated one unit of released time for Dr. Schilling.

When we initially conceptualized the idea for this project, I met with the chair of the Math De-

partment. Having taught deaf and hard of hearing students, he was aware of the discrepancy issue that we were targeting as the problem, the time lag, and the different kinds of presentation (visual/symbolic as contrasted with linguistic information). After less than ten minutes of discussion, he said, "You've got my support!" He actually had to do a little more work than we did. He had to switch around professors' schedules to accommodate our needs.

Conclusion

We began our project with the belief that the below-average achievement of deaf and hard of hearing students in statistics classes could be significantly reversed with an approach that focused on the unique learning styles of the students. By addressing communication and information processing issues in a new way, our goal of 75% (passing the experimental course with a grade of C or better) was surpassed. Our collaborative approach, with a professor responsive to the unique needs of deaf and hard of hearing students and a class assistant employing direct communication for supplemental instruction, can be replicated in whole or in part by other institutions. This project has been one successful step toward our broader goal of providing deaf and hard of hearing students with the opportunity to achieve their true potential.

Creating an ASL Study Aid for Introduction to Psychology: Meshing Four Constituencies to Make a Video Tape

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Abstract

This paper examines the process of making a videotape study aid for a university level Introduction to Psychology course with the eventual goal of transferring the material to a searchable CD ROM disk. The project was done as part of a Western Region Outreach Center and Consortia grant awarded to Salt Lake Community College and the Utah Consortium, a group of post-secondary institutions and other agencies that serve Deaf and Hard of Hearing clients. Four different groups were involved in the making of the videotape: Psychology Department consultants, Deaf consumers and actors, video production staff, and coordinators. Two coordinators worked with the other three groups to negotiate the material selected, how it was expressed, and the details of how the final video would look.

The rationale for making the video is that Deaf students face unique problems in classes that use extensive technical terminology. A Deaf student typically uses an interpreter during lectures, but may have to break his/her concentration on the lecture material to discuss with the interpreter how to sign various terms.

This videotape was conceived as a way to let Deaf students preview terms and concepts in ASL before they had to deal with them in lectures. It was also seen as a way to help Deaf students connect the ASL versions of technical terms to their written English equivalents, hopefully improving exam performance. It is expected that interpreters will want to study the tape ahead of time, making their preparation more efficient.

Three Deaf actors were used on the tape, signing in ASL from a script developed in consultation with the University of Utah Psychology Department. For the first one-hour tape, three sections of Introduction to Psychology which beginning students find most difficult—Abnormal Psychology, Physiological Psychology and Cognitive Psychology—were videotaped.

Extensive meetings with Psychology Department representatives, Deaf students and recent graduates, the Deaf actors and the video production people were needed to arrive at a product that took into account the requirements of the various constituencies. The paper discusses this process.

Creating an ASL Tutorial for Introduction to Psychology:

Meshing four constituencies to make a videotape

Funded by The Rocky Mountain Connections Center which is sponsored by a sub-grant from the Western Region Outreach Center and Consortia (WROCC) National Center on Deafness at California State University, Northridge in a contract with the US Department of Education, Office of Special Education and Rehabilitative Services

(The first speaker is Rusty Wales: he is Deaf utilizes an ASL-to-English interpreter)

We have seen numerous Deaf people succeed in their colleges and in their careers as well. Few of them went on to successfully complete Ph.D.s.

There has never been a question in our minds in our professions in the field of deafness that Deaf people have equal ability to achieve anything in their ventures, as their hearing counterparts do. Deaf individualsexhibit the same range of intelligence as hearing people do; we know that. Likewise, Deaf people do have shortcomings and so do hearing people, you and me. How well Deaf students are prepared prior to their first year in colleges may be more unique than in any other groups. It is our job to examine this uniqueness and explore various ways to help Deaf students overcome this deficiency.

It is a fact that most local public educational systems leave Deaf students ill-prepared for the demands of vocational or college programs. One area of particular concern is English literacy skills. No matter if some Deaf students have worn hearing aids/cochlear implants and have had excessive speech training in their first 18 years of life, Deaf youths will *always* think and process language visually. Some students may have been more or less exposed to American Sign Language (ASL), the natural language of Deaf people. Others may never be exposed to ASL, yet they have shown some of the same struggles in mastering writing/reading and employing English. With this logic in mind, ASL is the language most readily understood by visual thinkers (Deaf individuals). ASL is a complete language that functions the way the visual mind functions. English, on the other hand, is an auditorally processed language that functions in the manner suited to the hearing mind. Written English is based on the way English *sounds* and is *spoken*.

The intent here is not to beat a drum advocating ASL but to help you to think like a Deaf person as if you have been deprived of thinking, processing, and articulating auditorally in your lifetime. When you open a college-level textbook in your first year at a college, you might find nothing but wordy or verbose text without pictures. You would want to peruse through many pages looking for some pictures to help you think visually. "Help!" may be a natural reaction of a Deaf student as a visual thinker on the first day at a college.

In a transition from a high school to a college, Deaf students are thrust into heavy verbal lectures where professors blah-blah, using big and nonsense vocabulary, all auditorally. Those Deaf students are expected by their parents, rehabilitation counselors, professors and everyone else to pick up big vocabulary as naturally as their hearing classmates. This is not always the case. They really need direct interaction from their teachers or professors. Although interpreters play a vital part in college learning, a direct interaction between a Deaf student and his/her professor cannot happen even with an interpreter. A professor would have to sign directly to the Deaf student before this student can process information visually. Deaf students need instructors who can communicate with them directly in their language, understanding the linguistic and cultural differences of Deaf students in order to get the concept across. If instructors or the textbooks could share the same language (ASL) their students use, they would be empowered to create visually-accessible methods to help Deaf students understand the class subject much better.

We the staff of this Utah grant team have identified this issue and after some lengthy brainstorming and experiments, came up with this video project. It can be said that video is visual enough and very essential for a Deaf person to think and process a concept, particularly in a college setting. This video project may also be of benefit to an interpreter in a particular class to become familiar with certain high-technical signs used in interpreting. The goal here is obvious and is to help Deaf students be better prepared for studies on a college level. Keep in mind, this project is best suited to the early part of a semester, such as the first week of a class, *not* one night before a final exam!

(Karen Wales, who is hearing, is speaking this next part. She utilizes an English-to-ASL interpreter).
We decided to start with Introduction to Psychology as our pilot class for the video because it is a requirement or elective for many majors, because it has a large body of technical terminology, and because some of the technical terminology resembles everyday language but is used in very specific ways which confuse students. To begin, we interfaced extensively with a professor of psychology at the University of Utah who is very concerned about the quality of undergraduate education. He, along with advanced graduate students in the department, reviewed the scripts for the video to ensure psychological accuracy.

The scripts were written by a staff member at the University of Utah whose graduate degree is in Psychology and who has frequently taught Introduction to Psychology. This team of people

was consulted often as the script was written for three topics in Psychology 101, Abnormal Psychology, Physiological Psychology, and Cognitive Psychology.

After extensive research of available similar types of learning materials (video), we discovered and found only one series of videos that were of technical terms directed mostly toward interpreters (an NTID series of five videotapes). These tapes only displayed signed vocabulary (to create consistency for interpreters) and spoke the technical terms, rather than defining or giving examples. Therefore the purpose of the video was two-fold – first, to make something that would benefit and be useful for Deaf college students prior to and during the studying of the Psychology 101course and second, for interpreters to assist them in their skill level for the benefit of interpreting to Deaf students and to increase consistency in technical signs used in psychology.

Once the script was written on paper in English it was time to find a group of Deaf consultants who would review the written script and agree with the signs and definitions in ASL. We also decided in the beginning of this process that Deaf individuals would be the "actors" for the visual video presentation. The Deaf consultants were crucial in the process of revising, editing and reviewing the written English script for the ASL presentation to be taped. We chose five Deaf individuals who had taken psychology, used their psychological backgrounds in their professions, were college graduates (with MA or BA degrees), and had excellent usage of English as well as being culturally Deaf. Of course, they were all fluent in ASL.

In the course of many meetings among the Deaf consultants, a strong consensus emerged about how to handle language and translation issues. One point of agreement about language was that if a given piece of technical psychological vocabulary was not in common use in ASL, it would be fingerspelled; new signs were not created for the purpose of this tape. All the Deaf consultants were in agreement with language, translation, and definitions into ASL. The Deaf consultants would consider in length how to express the precise meaning of a term in ASL. This "linguistic clarity process" evolved due to the concern they showed in truly understanding the original script material. The script was reviewed and changed three times before it was approved by the Psychology department.

The Deaf consultants were wizards at rethinking English psychology terms into ASL. Gross changes like eliminating examples that were more understood by "hearing" people were easy to achieve. The Deaf consultants prompted a number of changes, interpretations, and subtle nuances that improved the finish product. Specific examples were used more often to clarify concepts and helped the video work more like a narrative than a set of isolated definitions. The face to face interaction between the Deaf consultants and the script writer was a crucial part of the process.

The three Deaf actors in the video were chosen from our group of Deaf consultants. We consulted with them as to color of clothes and background colors, listened to their suggestions as to what would make the video as easy on the eye as possible. This greatly helped once the "shooting" of video began since they were involved in the translation of the script. Each Deaf Actor has their individual signing style, something we knew would be of value for the audience. The common thread was that all three actors were culturally deaf and were fluent in ASL. Their signing styles are unique which makes for ease and interest when watching this video. These Deaf Actors make the audience feel like they are being taught by professors. They beauty is that the material is being presented in ASL by the individual not a third party.

Communication, communication communication was the key to the success of this video.

(The final section is spoken by Anne Vinsel, who is hearing. She utilizes anEnglish-to-ASL interpreter).
Rusty and Karen have explained the part of our process that included recruiting the actors. I will begin where Karen left off by repeating "communicate, communicate, communicate" and add "then do it some more and don't assume anything!" I thought I would use my time to provide you with some concrete examples of what I mean, and don't worry— I'll be sure to leave time for questions.

In a way, none of us had any background in doing something like this, but in another way we all had some connection to learning a large set of "big and nonsense" vocabulary. The first Introduction to Psychology class I taught was in 1975, and some things haven't changed. My own motivation in this project was to help Deaf students get beyond a point where many students, hearing or Deaf, become stuck. They feel like they know the terminology, and they've looked at the book and

maybe memorized a few things, so if you just ask them "do you understand this concept", they nod yes. But they don't really understand the terminology enough to work with it, even to the level of an Introductory Psychology text. So that was my goal: to let students get beyond that nodding stage to where they understand something in at least a basic way, and can express that on an exam.

When I wrote the script, I tried to include lots of examples that would help students remember the concepts but that were still accurate from the psychology point of view. This was especially important in the section on Abnormal Psychology. It's one thing to define what a delusion is in the abstract, but it is more helpful to give an actual example of a real kind of delusion somebody might have. If you just have the part of the definition that says "false thoughts," you could get all hung up thinking "what's false to one person might be true to another," and you don't really get the feel for what a delusion is. However, if you have an example such as "the person thinks she's the Virgin Mary and is being persecuted by being put in this hospital because the government is trying to silence the mother of God," that gives you a truer picture. Also, I'm a visual person, a painter and sculptor, and it always helps me to have a visual image to remember something. So, it was easy for me to understand that Deaf students would want something to visualize instead of a lot of cold "blah-blah." All our actors were really concerned about conveying meaning, communicating to students, and they helped make the scripts better that way.

At the same time it was also my job to worry about keeping definitions and examples accurate from a psychological point of view. There was a lot of back and forth consultation between myself, Karen, the Deaf consultants, and the Psychology consultants. Karen counted three versions, but from my standpoint it was more like 800 e-mails and lots of meetings. One thing that was interesting and also a little funny was that the parts that the Deaf consultants found boring and suggested minimizing or eliminating were the exact parts that the Psychology Department consultants had expanded from my original draft.

One example was the *DSM-IV*, the *Diagnostic and Statistical Manual*, version 4, affectionately known as the Bible of Abnormal Psychology. Deaf consultants thought the section on the *DSM* was way too long and boring, and the Psychology Department thought it needed expansion. There were many compromises, needless to say.

Because I came into the project totally ignorant of ASL, I had originally assumed that the "translation" part would be straightforward, and the actors would just plug ASL signs into the technical terminology (yeah, yeah, I know better now). Rusty, Karen, and the Deaf consultants were very persistent (tactful, but persistent) in letting me know "it's not that easy, we have to get together and figure this out, ask you questions about what you meant, etc." My first clue was when one of the Deaf students got confused about how I was using the term "commitment" (as in "commitment hearing"). "Isn't commitment a good thing? What all the girls want, you're a serious person?" His question made me realize that I needed to clarify that part right away, but also cleared up a real mystery created by many generations of Introduction to Psychology students! "Oh, THAT'S what they were thinking commitment meant!" The problem with an introductory class is that if you're in the field, you use jargon all the time in your everyday life, and you forget that the same English words mean something else to most people. The Deaf consultants were very good at spotting when that was happening and making me fix it. Working so hard for clarity was a part of the process I hadn't even visualized at the beginning but was most valuable to the quality of the final product.

As we continue to do the rest of the Introduction to Psychology tutorial, that part will become more important. For me, it was very important to try to be flexible and learn as I went, even though I was juggling three different groups (Deaf, Psychology, and TV Production) and was coming from a third group (trying-to-be-helpful Advisors).

Another happy surprise for me as I learned a little about ASL was how efficient it is in terms of time. Having four dimensions to work with instead of one lets you put a lot of information in each unit. We discovered that a script that would take about 2 1/2 hours in spoken English took less than 90 minutes in ASL.

Working with consultants from the Psychology Department

The Psychology team needed to understand that ASL and written English are not the same; it's a genuine translation need; also that the usual organization of information in textbook English might be inefficient or boring in ASL.

We operated through a professor who is very concerned about the quality of undergraduate instruction. He has been a connection to the Disability Services office for several years as a dual appointment with Undergraduate Studies, so a working relationship with our office was already in place. The professor contacted other professors and all-but-dissertation graduate students who specialized in the topics we were videotaping. These consultants reviewed the first draft of every section, and in one instance also reviewed two more drafts. We asked them to concern themselves with the following issues:

- accuracy and up-to-date quality of the information.
- appropriateness and clarity of the examples.
- representativeness of the terms for an introductory course.
- appropriateness of the level of explanation for introductory class.
- should there be more or less information for a given term.

Working with TV Production People

It was obvious to me that our production and editing staff had never produced an ASL video before, but I was very mistaken in thinking it would be easier for them. Because no sound is needed and the remaining production should be the same, I thought it would be easier. There were quite a lot of things about the shooting that were new and different for the production people. For the shooting, although it was easier for the TV production not to have an "official" audio track, we wound up recording an unofficial "trash" audio track so that the editors could divide up the tape into coherent segments and properly insert the text (many thanks to Karen).

The set needed some experimentation, as well as the lighting. The production crew was only familiar with shooting situations where focus is needed on the upper body, such as a news anchor person.

In standard video production, medium and long shots are not "read" by a viewer for close detail, so although the camera people were accustomed to shooting a person from the waist up, they were not accustomed to shooting someone with rapidly moving hands where clarity of hand movement was critical. This required adjustments of positioning of the Deaf actors, adjustments in lighting and very exacting work by the camera operators.

One of the actors, Penny, who did the physiological section, had a naturally large signing space, and was also working with a large model of a brain some of the time. The production crew had to ask her to restrain her signing a little to leave room on the tape for other elements.

When the teleprompter was set at a speed appropriate for speech, the signing became ve..r....y.....s...l.....o.....w. ASL is so much more efficient than spoken English; the teleprompter operator had trouble keeping up with the script when it was run at the speed that worked for signing. Because we taped Rusty first, he was experimented on the most, but he was very patient and we only had to reshoot one section at the very beginning of the tape.

The biggest problems we had to work out when putting all the elements together were what sections to include in what proportions, and how fast to run things by the viewer.

All of our Deaf consultants were very clear that they wanted the actor large on the screen; then we had to juggle other elements. Originally, we made one giant mistake and asked the actors themselves how much information they wanted on the screen with them. Whoops! Since they had lived with the script for quite a while, they already knew this stuff and preferred a format where the text was on the screen at the same time they were. The WROCC site visitors and anybody who was viewing the tape "fresh" found that format too hard to follow. Luckily, this is one of the things we could fix in post production; so the tape you see here is the changed version and people think it is much easier to follow.

An interesting generational difference was that younger Deaf consultants expected to interact with the video more and were confident of their abilities with freezing text and taking notes from there. The somewhat older consultants wanted the text on the screen longer, not wanting to interrupt the flow of visual information. We compromised with ten seconds of screen time for text.

Shooting the Video

Because we are hoping to eventually put this video onto a searchable, indexed CD, we realized early that we would need extremely high quality video. This was also the case because viewers would need to clearly discriminate among very subtle hand and finger actions, not ordinarily a major concern in video. We also needed to include a time code,

so that students could match the video to a written text index, thus saving them a lot of time if they just wanted to look up certain terms.

My original concern that there was too much information even in these three sections proved to be unfounded; ASL's spatial economy meant that material took a shorter time to sign than it would have taken to speak.

The actual shooting created unfamiliar situations for everybody. It is apparently more difficult to read from a teleprompter, watch for a floor director's signed directions and sign than it is just to read English aloud from a teleprompter. The speed at which it makes sense to set a teleprompter for spoken English is too slow for ASL signing. The (hearing) director was also dependent on a signing floor director to pass instructions back and forth. Camera operators are more accustomed to focusing on a person's face than on their signing space, and lighting that area is more critical than usual. Luckily, everybody in the process was patient and had a sense of humor. We were limited to one day of shooting, with about an hour of reshooting time available. Any other difficulties had to be fixed in post production.

One thing we found critically important for later editing was to have a "trash" sound track, narrating what the signing actor was saying. Because of the diversity of the actors' signing styles, there was a range of speed, pausing between terms, etc. This variability, while providing something for every viewer, did create difficulties in the post production. Most mistakes were corrected on the spot by reshooting; they were the usual kinds of video bloopers—the occasional sniffle, signing "is" instead of "is not", signing too slowly or too quickly. Only four significant errors snuck into the tape, and three were correctable.

Post Production and Beyond

The biggest difficulty in postproduction (currently wrapping up) is one that is inherent in having a hearing person who does not sign edit ASL material. Editors are accustomed to having the sound track coincide exactly with the visual of the speaker on the screen; this was obviously not possible. The editor had several sessions with two different ASL users, one hearing and one Deaf.

These two ASL consultants noticed difficulties that had slipped by in the shooting, and were very creative in suggesting corrections. One problem was solved by cutting and pasting from another signed sequence, a section that remained too slow was sped up by increasing the frames per second, text that had landed with the wrong signed sequence was corrected, and several quite complicated technical problems were fixed by the editor working with an ASL user. The major lesson for all of us was that postproduction is more complex than you think and that not everything is easy to fix after shooting. Working with ASL visuals was also a new experience for the editor; everyone involved needed to be flexible and creative. In the end, everything was correctable except for one stray non-dominant hand "shoo-ing" gesture that was impossible to reshoot because the actor had died shortly after the footage was made.

There were several limitations in this first video, including the fact that only the video production staff had made instructional videos before. If we had it to do over again, several changes could improve the final product:

- work more on making both form and content ASL friendly, while retaining accuracy.
- put actors' ASL glossed scripts on teleprompter if they'd rather, instead of using the English version.
- separate the functions of providing a trash audio track and watching for ASL errors; two ASL-using floor directors rather than one.
- insert a narrator to comment on structure (idea thanks to Deaf colleague hired after the taping was over) such as the mice in the movie *Babe*.
- pull in video examples from other sources that are accurate, for example clips from *Girl Interrupted*, *One Flew Over the Cuckoo's Nest*, for abnormal psychology. It might be impractical to get permissions, but worth trying.
- build reshooting-after-reviewing-the-original-tape into the budget, even though it means resetting the stage and lighting and recalling the actors.

Brief Autobiographies:

William "Rusty" Wales was born Deaf and attended the oral day school for his first six years. He then transferred to California School for the Deaf, Riverside, and six years later he gradu-

ated. Four years later he received a BA degree in Sociology from Gallaudet University. Rusty has been a teacher, curriculum specialist and project coordinator with the California State Department of Education for 16 years. In these years he has been involved in both types of educational settings, a residential school and mainstreaming program. He moved to Colorado to become a rehabilitation counselor where he was actively involved in coordinating school-to-work transition as well as preparing clients for college. Ten years in this business was long enough for Rusty, and so he moved on to becoming a Training Supervisor with a Telecommunication Relay Services center. Currently, Rusty is the Administrator of Utah Division of Services to the Deaf and Hard of Hearing and he manages the Utah Community Center of the Deaf (UCCD) in Salt Lake City (see elsewhere in this paper about more information on UCCD). He has won a number of awards including the TV network/newspaper's Teacher Who Makes a Difference and the Colorado Rehabilitation Counselor of the Year awards. His short story, "Back to the Star" was published in *Deaf Esprit: Inspiration, Humor and Wisdom in the Deaf Community*.

Karen Wales has a MA degree from Gallaudet University in Rehabilitation Counseling. She has extensive experience in working with people who are Deaf and hard of hearing both as a classroom teacher and vocational rehabilitation counselor and placement specialist. Ms. Wales is currently the Program Director for BOOST, a customer service/computer skills training program for individuals with challenges and disabilities. She has been involved on a cooperative agreement with Salt Lake Community College and the WROCC Grant to teach English as a second language to Deaf students and to assist in the development of our ASL Video for Introduction to Psychology.

Anne Vinsel has an MS in Psychology from the University of Utah. She has taught a variety of psychology courses at the college level since 1975. She had a career change, and is presently a painter and stone sculptor, and does free lance work in computer imaging. She presently works at the Center for Disability Services at the University of Utah as her "day job", and was asked to help with the WROCC video project by writing scripts, coordinating with the Psychology Department, and assisting with the video production and post-production.

About Utah Community Center of the Deaf (UCCD)

The Division of Services for the Deaf and Hard of Hearing provides services designed to increase education, independence, and community integration of individuals who are deaf or hard of hearing. It is housed at the state-owned facility affectionately called UCCD and it includes a 25,000 square foot building housing offices, classrooms, meeting spaces, lounge, kitchen, library, bookstore, gymnasium and technology center. The Center's services and activities include information and referral, educational classes and workshops, counseling services, recreation and leisure activities, equipment repair and installation services, interpreter program with training/certification/services, senior citizen activities, deaf youth and family activities, recreational activities for deaf/multiply disabled individuals and an independent living program.

Section V
Using Technology

Demystifying Assistive Listening Devices: The Devil is in the Detail

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Abstract

Assistive Listening Devices (ALDs) have been described by users as technology that has changed their lives, something that they would never be without again. Yet, many individuals who have a hearing loss have never used them; service providers may be unfamiliar with them as well. Personal ALDs are relatively easy to use, as long as the user is familiar with a few tips and tricks. Unfortunately, without this information, the user may think that problems that occur are due to his hearing loss and not the equipment. This paper covers basic information about the workings of the major ALD systems and provides troubleshooting tips to make ALD use a successful experience for all.

Oftentimes service providers do not understand why individuals who are hard of hearing need any accommodations in classroom settings. The student may have been able to communicate very well with the service provider on the phone or in her office. Some people believe that hearing aids and speechreading together are adequate for classroom communication. Others may think that only those with profound losses are really in need of assistance. Still others may not understand why the student seems to hear well in some situations but not others, or understands one individual and not another. This article will help the reader to understand how these seeming inconsistencies can exist and will focus on how assistive listening devices can be extremely useful in classroom settings, even for those with milder hearing losses.

Why use ALDs?

People who are hard of hearing are not just hearing speech that is softer. Because some speech sounds are softer than others, such as s, f, and th, these individuals hear softer speech with parts of words completely missing. Students who are hard of hearing depend both on what they can see (for speechreading) and what they can hear for their receptive communication. However, as they are students, they will be in many situations where much of the vocabulary is new to them. It is even more difficult to speechread unfamiliar words.

Sound is measured in frequency (high and low) and intensity (loud or soft). Hearing aids help individuals by increasing the volume in the range of frequencies in which they have trouble hearing. Unfortunately, hearing aids cannot discriminate between the sounds one wants to hear and those one does not want to hear. Classrooms and other group settings are extremely noisy situations. It is not just that the teacher may not be speaking loudly. There are 50 other students in the room moving about, tapping pencils, getting books out, and shuffling papers. The heating or air conditioning system and the fan on the overhead projector add to the noise. Although newer hearing aids with directional microphones have improved listening in noisy environments, most students will not have this technology. In addition, this technology is less effective when the person you want to hear is farther away. Hearing aids typically amplify all sounds within the prescribed frequency range within about 20 feet of the student, making hearing in noisy environments extremely difficult.

To make matters worse, acoustics are usually poor in classrooms. Research has shown that students with normal hearing can hear clearly if what they want to hear is 6 dB louder than the background noise (Signal to Noise Ratio or SNR). Students with a hearing loss need not a 6 dB SNR, but a 15-25 dB SNR to achieve the same results (Blair, 1990). Hearing aids do nothing to improve the signal to noise ratio; in fact, they can make it worse by amplifying everything.

People who have a hearing loss lose both volume and clarity of speech. Hearing aids help get the sounds one might be missing to the ear, but the individual must still spend extra effort processing what she is hearing (information coming from both the ears and the eyes). For all these reasons, a student with a hearing loss may still need assistance to achieve effective communication in the classroom.

How do ALDs help?

ALDs consist of a microphone, a transmitter and receiver system, and a coupling device, such as headphones. The instructor speaks into the microphone. The microphone is attached to a transmitter, and the transmitter sends the signal to the receiver that the student has with him at his seat. The only sounds that are being transmitted are what comes through the microphone. The student's receiver picks up the signal and sends it to the coupling device, such as headphones. There is a volume control on the receiver so that the student can turn it up or down as needed.

What do ALDs do? ALDs help minimize background noise and maximize the target sounds you want to hear. The instructor speaks into a microphone, and the student can turn up the volume. In effect, ALDs help the student to "turn down" the background noise and to focus on what they want to hear (that is, the instructor's voice). It's that simple.

Who would benefit from ALDs? People with mild to profound losses can use them. The benefit received depends on the severity of the loss. ALDs aid in speech reading in more severe losses and help reduce dependence on speechreading for milder losses. For more severe losses, ALDs may only help the individual pick up voice inflections. However, this helps the individual interpret meaning. Individuals with and without hearing aids and individuals with cochlear implants may also benefit from ALDs (those with cochlear implants would need to use the appropriate patch cords to be able to take advantage of them with the implant, or they may use the ALD with the aided ear). Finally, because ALDs help bring the target speech directly to the ear and thus help reduce auditory distractions, they may also help certain individuals with learning disabilities and attention deficit disorders. The bottom line is that educational settings are communication-intensive environments. ALDs will be extremely beneficial to individuals with a wide range of hearing loss.

Assistive Listening Device Systems

There are three major ALD transmission systems. This variety is useful, because each system has its own advantages and disadvantages. There are large area versions and small, personal versions available for each transmission system. Range varies with the system from under 100 feet to more than 500 feet. The receivers generally run off batteries, as do personal FM transmitters. With the *appropriate* coupling device, each system can be used with or without hearing aids.

FM. The personal FM transmitter is about the size of a pager and has an on/off switch and a jack for a microphone. The instructor plugs in the microphone and clips it close to her mouth, turns the transmitter on, and begins speaking. The FM receiver looks very similar and, like other receivers, has an on/off/volume control and a jack for headphones or another coupling device. The student wears the receiver, which intercepts the signals, and plugs in headphones or another coupling device to transmit the sound from the receiver to the ear.

FM uses radio waves to transmit the signal across the distance. It helps to think of the system like a radio station. The receiver and transmitter must be tuned to the same frequency to work. It provides the greatest amount of decibel output, and so it may be preferable to those with more severe losses. FM allows for a great deal of freedom of movement. In fact, you can leave the room and still pick up the signal. (Instructors should be aware that, unless they turn off their microphone, they, too, can leave the room and still be transmitting the signal.)

FM systems are susceptible to interference from other devices using FM radio waves within the same frequency range, such as pagers and

walkie talkies. Similarly, in order to be used in two rooms that are side-by-side, there must be at least one free frequency between the two transmission channels, or there may be some bleedover of the signal between the two rooms. If you pick up traffic from other devices, ask the manufacturer to recalibrate yours (or the ones causing the interference) to a different frequency. If you will be using this type of equipment in a high traffic area, purchase equipment that is narrow band or super narrowband. These transmit on different frequencies and are much less susceptible to interference from other traffic.

There are hearing aids that have a built-in FM receiver. Others can be fitted with an FM boot that fits over the bottom of a behind-the-ear aid. These will come with microphone and transmitter systems that are to be used with them.

Infrared. Infrared uses infrared light to transmit the signals, similar to remote controls and VCRs. While you must have a direct line of sight with remote controls, infrared systems have a wider area of coverage than this. Some older systems will require a more direct line of sight than the newer systems. Light does reflect off surfaces, so the signal can often be picked up from a variety of directions.

There are a variety of styles of infrared emitters: some look like panels and some look like pyramids. They are all identifiable, though, by the rows of diodes or eyes covering them. Infrared transmitters must be plugged into a power source. Most of them are plugged into an existing PA system (although there are home versions that are used with television sets).

There are also several different versions of IR receivers. All will have a light-intercepting diode on them. This diode must not be covered or the signal will be blocked. (So, unlike FM receivers, the student would not be able to put the infrared receiver in her pocket or clip it to her belt like a pager.) Some are worn like headphones and have the diode on top; others are worn like a stethoscope and the diode hangs under the chin. Still others look similar to the receivers described above for personal FM systems (except that they have a diode) and can hang around the neck or beplaced on the desk. This last type is the most versatile. Individuals who wear hearing aids often have problems wearing headphones or the stethoscope-type headsets. When you purchase receivers, make sure that a variety of coupling devices can be plugged into them (such as neckloops or headphones). Some come with the extra jack; others do not.

Because infrared light is used to transmit the signal, this system is considered secure. That is, others passing by outside with infrared receivers could not 'tune in' and pick up the signal as they could with FM. Light does not pass through walls. Infrared may be susceptible to interference from high frequency lights or direct sunlight (although indirect sunlight does not usually cause problems). Check with the manufacturer about systems that work with high intensity lighting. Infrared has the best sound reproduction across the broadest range of frequencies and is, therefore, the system of choice in theaters and concert halls. Also, many multiplex movie theaters use the system because the signals do not pass through walls and therefore, can be used in adjoining rooms.

Electromagnetic Induction Loop. This is the only system that is properly referred to as 'a loop'. The system consists of a loop of wire that is powered by an amplifier and a microphone. The amplifier must be plugged into a power source. The wire loop transmits electromagnetic waves that carry the signal, not unlike stereo or telephone speakers. An area as small as a table or as large as a room can be looped. Professionals should set up large areas, as dead spots (areas where no sound is picked up) can result.

If the user's hearing aid is fitted with a device called a telecoil, he will not need an external receiver. He would enter the looped area and flip his hearing aid to "T" to pick up the signals. Unfortunately, only about 30% of hearing aids sold in America today contain telecoils. In order for those without hearing aids (or those whose hearing aids do not have telecoils) to use the system, you should also have a supply of induction receivers on hand. These receivers look like the FM receivers described above, and headphones can be plugged into them. (These receivers are also useful to service providers in other troubleshooting situations described below.)

Unfortunately, everything that is powered by electricity gives off some electromagnetic energy that causes interference in the form of static or a hum. Some sources of interference are noticeable, while others are not. This is not the system to use in a computer lab. With some sources of interference, such as lighting ballasts, simply changing seats helps.

Application

The systems are relatively simple in concept. Application to real-life situations may require some troubleshooting. One person speaking is easy to set up, because you have only one person to mic. **What if there are questions from students in the class?** The hard of hearing student would not be able to hear the question because it was not spoken into the microphone. The teacher should repeat questions into mic, or pass the mic to the student for long comments. **What if there is not just one speaker, but, for example, a panel?** If the speakers are taking turns, you could pass the microphone to each speaker. However, if it is more of a discussion, you should have multiple microphones. People just do not reliably pass a microphone when discussions are fast paced or heated. Side comments are always lost, causing the hard of hearing student to miss out on the flavor of the interaction. Check with your audio-visual department to help with setting up multiple mics and plugging the transmitter into PA systems. Otherwise, check with manufacturers to find out about other options. The Northwest Outreach Center maintains a website that lists companies selling assistive equipment along with their websites and phone numbers. It can be found at http://www.wou.edu/nwoc/ald.htm.

What if the teacher shows a video? For the best quality use a patch cord to plug the transmitter into the auxiliary out on the TV or VCR. If this is not possible, place mic next to the television speaker. If the student is watching the video alone, the transmitter could be plugged into the headphone jack. However, this will cut the sound off for anyone not wearing the receiver and headphones. Finally, you can't speech read an off-screen narrator, so the video should still be captioned. The website listed above also lists suggestions for post-production captioning.

What if the student does not want to wear or cannot wear headphones? If the student does not have hearing aids or if he wears hearing aids but the hearing aids do not have telecoils, the student is limited to headphones or earbuds. Earbuds are single-ear versions of headphones. Some clip on; others must be held up to the ear.

If the student has hearing aids with telecoils, there are two other options. One is the neckloop: It is plugged into the receiver in the same place as the headphones (make sure your jacks are the same size by checking with the manufacturer) and is worn around the neck. It can even be worn under clothing, depending on strength of telecoil and severity of loss. As with the induction loop system, using the neckloop requires that the student flip his hearing aid to "T."

Some students may find themselves holding the neckloop closer to the hearing aid. These students may want to try using silhouettes. Silhouettes look like flattened, behind-the-ear hearing aid,s and they hook behind the ear (just like a BTE hearing aid). (They will work with either BTE or in-the-ear hearing aids that are fitted with telecoils.) Because they are closer to the hearing aid than a neckloop, they provide stronger signal for more severe losses.

Using the telecoil further reduces room noise, because you can turn off the hearing aid microphone to flip the hearing aid to telecoil. Now you only pick up what is coming across the teacher's microphone. With the hearing aid microphone off, you will not be able to hear the room noise or anything that is not said into the microphone.

Notice that the neckloop and silhouette are *coupling devices*, not methods of transmission. They can be plugged into infrared or FM receivers. Just like with the loop system, though, telecoils may pick up electromagnetic interference. Just as you would experience problems using a loop in a computer lab, you would experience problems using a neckloop in a computer lab, even though the transmission system might be FM or infrared. In both cases, you are using your telecoil, and the telecoil would pick up the interference.

Some students will not be able to wear headphones with their hearing aids because covering the hearing aid causes it to squeal or feedback. In these cases, the student will need to remove the hearing aids to wear the headphones. Alternatively, the student may want to consider having his hearing aids retrofitted with telecoils (or direct audio input) in order to take advantage of assistive listening systems.

One final note about coupling devices. Silhouettes, neckloops and headphones can be used to deliver sound to both ears instead of just one. Many people find that this greatly helps with comprehension.

What if the hard of hearing student is called on to respond? This is a problem, because on some hearing aids with telecoils, you can use the mic or the telecoil but not both at the same time. This means the student may not be able to hear

his own voice because his hearing aid mic is turned off. He is only picking up what comes into the teacher's mic. A receiver that has two jacks, one for the coupler (like the neckloop) and one for another "environmental" mic, is the answer. This mic will pick up the student's voice. This mic also allows the student to hear comments from neighbors. It also works well if the class is split into small groups. Be sure to comparison shop for these items. There can be a $150 difference in prices between catalogs on this item.

What if students are reluctant to use ALDs, even though you feel certain they would receive some benefit from them? Many times students who are unfamiliar with ALDs will be reluctant to use them. Encourage students to try out the equipment in safe environments outside of the class—for example, in a meeting with you in your office. Once they understand how helpful they can be, they will be more willing to use them. Also, explore with students to find out their fears. Provide them with the coping skills they need to gain confidence so that they can handle any problematic situations that may arise. Support groups are great places for students to get used to the idea of using ALDs and great places for students to learn more about how to live with hearing loss from others in the same situation. Self Help for Hard of Hearing Persons (SHHH) and the Association for Late Deafened Adults (ALDA) are two such groups. If there are no SHHH or ALDA groups in your area, or if the student is uncomfortable or just too busy, e-mail lists may be the perfect option. The website mentioned above includes a list of related e-mail lists and how to join them, including two excellent ones: Beyond Hearing and Say What Club.

What if the student complains of getting interference? How do you evaluate it if you do not wear hearing aids? In general, plug the headset into the receiver and see if you can hear any problems. You should be able to tell if there are any problems. If not, it may be the student's hearing aid. (In fact, some automatic room controls, such as those for heating and lighting, can cause hearing aids to hum and deplete the batteries. See Cederbaum [1996] for more information.)

If the student is using telecoils and a neckloop instead of headphones or if the room is looped, what do you do? This is where the induction receiver described above comes in handy. Plug headphones into the induction receiver, and have someone speak into the microphone of the system. You should be able to hear what the student would be hearing coming across the loop system. You might try this in rooms even if they are not looped. You can turn on the receiver, walk around, and pick up areas of static around the room. If you hear static, this may be what the student is picking up through his telecoils in using a neckloop. You may notice that some areas of the room are static free—for example, away from the light fixtures. Let the student know where the good areas are. In some cases, you may need to change rooms, transmission systems, or coupling devices.

You can also use the induction receiver and headphones check to see if a neckloop or silhouette is working properly. Just place the receiver next to the loop while it is plugged into the system. Have someone speak into the mic. You'll pick up whatever is coming across the neckloop and be able to listen to it over the headphones.

One final question people often have about students using assistive equipment is this: **Is it ever appropriate to provide ALDs and notetakers or ALDs and realtime or C-print?** The answer is absolutely. ADA requires that you look at each individual case to make a determination about appropriate accommodations. Notetaking is almost always appropriate, because you cannot take your own notes and read lips without missing something. Speechreading is still vital. Notetaking alone, though, may not be enough for *communication* access. Notes do not provide you with the information you need to be able to join in the discussion or to ask questions for clarification.

How do you, as a service provider, determine if a speech-to-print accommodation is appropriate? You cannot judge by severity of hearing loss, since speechreading skill will also be a factor. You cannot judge by how clearly a person speaks. It is not necessarily true that students with less of a hearing loss will have better speech. So, what should you be looking at? Is the course in a large room with many students? The student may not be able to sit close enough to speech read. Does the instructor have an accent or facial hair? These both make it difficult to speechread. Likewise, does the class require that the instructor is providing demonstrations and looking down, or is the instructor's speaking style such that she does not face the class much of the time? Does the

instructor speak rapidly? Is the class heavy in vocabulary, such as biology? Unfamiliar vocabulary is difficult to speech read. Is there a lot of interaction or class discussion? The student cannot use sound to locate the speaker, and therefore will not be able to follow the discussion. In any of these cases, it would be entirely appropriate to provide C-Print or Realtime support in addition to ALDs. (See the PEPNet website http://www.pepnet.org for more information about C-Print and realtime captioning.)

Tips for Success

It is very important to understand that technology does not take care of all the communication access issues. The student may still need a notetaker, because he will still be using speechreading to get the complete message. Special arrangements will need to be made if more than one person is speaking. The instructor will need to repeat questions or comments from the class into the microphone. Sometimes the only way to eliminate interference is to change rooms. Because students are still using speech reading, they may still want to avoid instructors with accents or facial hair. Give the professor and student time to practice with the equipment. Make sure the professor knows in advance and has a chance to talk with the student and be comfortable using it. Finally, it may still be appropriate to allow the student to take a reduced course load due to eye strain and auditory fatigue.

People who use ALDs often describe the impact they have had on their lives as 'life altering.' The most common reasons people do not use ALDs are that they have never used them before and/or that they do not know how to use them to get the most benefit. More information about ALDs for faculty, students, and service providers can be found on the NWOC website training module entitled "Demystifying Assistive Listening Devices." PEPNet also has a two-page Teacher Tipsheet and a full-length paper on this topic and many others. These can be found on the PEPNet website in the PEPNet Resource Center. Be sure your students know how to make the best use of this equipment to get the most out of their educations and to increase their employability.

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Distance Learning Opportunities for Deaf Learners

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Abstract

Various models of distance learning are being used with deaf learners at postsecondary levels. Web-based distance learning that enhances classroom instruction, synchronous videoconferencing that supports staff development, admissions and recruitment efforts, and desktop videoconferencing are valid for deaf learners. Included are recommendations for innovative uses of distance learning with deaf students and the opportunity for continuing this discussion through the use distance learning technologies.

Distance learning offers new and continuing educational opportunities for students throughout the world. New technologies are modifying traditional delivery systems of distance learning by offering new means of communication and interaction. Sometimes students can access this type of education readily with equipment and software they already own or can readily locate. It is important that deaf students who may be potential distance learners become involved in the development of these learning materials and make use of the increasing distance learning opportunities. Students, developers, and faculty need to insure accessibility and ease of use of distance learning technologies by deaf learners. For this to occur, we should become familiar with examples of how various distance-learning approaches are being used at post-secondary levels and have in place a forum to share our experiences with one another.

In this presentation, we focus on two approaches to distance learning and their relationship to deaf learners: (1) web-based distance learning that enhances classroom instruction, (2) synchronous videoconferencing that supports staff development, admissions and recruitment efforts.

What is Distance Learning?

The USDLA (United States Distance Learning Association) uses the term *Distance Education* to include *Distance Teaching*, the instructor's role in the process, and *Distance Learning*, the student's role in the process.

Distance Education takes place when teachers and students are separated by physical distance, and technology (e.g., voice, video, data, graphics, print), often with face-to-face communication, is used to bridge the instructional gap. Distance Learning (DL) can provide education for a variety of populations, who may not be otherwise served, such as:

- students disadvantaged by limited time, distance or physical disability;
- adults needing a second chance at a college education; and
- workers needing to update their knowledge base at their places of employment.

Distance learning can complement or supplement other learning opportunities. Distance learn-

ing is an evolving process. Four key features of DL can be summarized as follows:

- Separation occurs for a significant portion of the instructional process and for teacher and learner in space and/or time.
- Media is used to unite the teacher and the learner, and to carry content.
- Communication occurs between teacher and student and among students.
- Control is often determined by the students and not by the distance instructor.

Web-based Learning and the Deaf Learner

Web-based Distance Learning Can Enhance Classroom Instruction.

The advantage of web-based distance learning is its "friendliness." Many students and teachers are already familiar with the Internet and already use it to keep in touch with friends, family, and/or colleagues. For these people, it is a natural extension to use these same tools for teaching and learning. For example, when teens and young adults go to conferences, their email addresses are centrally posted so they can continue their conversations on Internet chat areas or through IMing (Instant Messaging) when they return home after the conference.

The hardware/software for Web-based DL is commonly found in homes today. About 70 million homes in the U.S. are equipped with personal computers and Internet connections. Additionally, students have access to this equipment at public libraries and schools in most communities.

The exception is access to a web cam. However, these units are relatively inexpensive, ranging from about $50 to $175 [or the Sorenson EnVision for $800, which includes a PCI card with processors]. Most require a USB port; however, a computer purchased within the past two years is likely to have one. The quality of web cams at present is typically restricted to a resolution of 640x480 pixels and under 30 frames per second under optimum conditions. They are currently suitable for slow signing but do not provide sufficient information for high intelligibility of normal-paced sign conversations. Furthermore, real-time display is further limited by the speed of the computer processor and the Internet connection.

Distance Learning on the web, when interaction is provided, may incorporate person-to-computer interaction and/or person-to-person interaction. Person-to-computer interaction is between learners and a software program. The learner (user) interacts with a computer program. Person-to-person interaction occurs when the learner has an opportunity to interact with other learners and/or moderators (leaders).

Person-to-computer is preprogrammed interaction that occurs between learners and a software program. Examples include web forms, on-line course outlines/notes, and on-line quizzes.

The learner interacts with a computer program and receives feedback from a computer. The learner may or may not receive periodic feedback from a teacher. At this point, the interaction moves beyond preprogrammed interaction. Person-to-person interaction brings familiar features of the classroom to the Internet. Examples include conferences, chats, and online group projects. Key features of person-to-person interaction are:

- The users (students) interact with moderators (leaders or teachers);
- The moderators may serve as models;
- The users (students) interact with other users (students);
- Everyone can be an equal.

In this presentation, we focus on person-to-person interaction. These interactions can occur whenever it is desirable for the participants or at prearranged times.

How Should You Introduce Web-based Distance Learning?

Another component in planning is to determine the computer skills and comfort of your students so that all students can access distance learning confidently and comfortably. Some students will benefit from an introduction to DL in which the parallels between classroom learning and DL are clearly modeled. These students will profit from a teacher-led transition between a low-technology classroom and a high-technology classroom.

Most students will find DL more comfortable when a self-learning environment is modeled. This type of scaffolding enables students to make the move from supervised or guided

learning to independent or volitional learning with greater confidence.

How Can You Achieve Person-to-person Interaction in Web-based DL?

Asynchronous communication can occur at any time; the participants do not all need to be present at the same time. Therefore, asynchronous communication accommodates students in different time zones, as well as students with different study schedules and job responsibilities. Asynchronous communication is possible through: email, mail lists, newsgroups (Usenet), and message boards.

Synchronous communication requires concurrent participation of all parties involved. Typically, the communication is available to participants only as it occurs. The participants need to be attending to the conversations or they will miss information. This form of communication more closely resembles the classroom environment. Visibility is crucial because information is not repeated unless a participant specifically asks for repetition. Synchronous communication can be achieved by text, audio, and video. It can occur for a group or on a one-to-one basis. Synchronous communication is possible through chat rooms, instant messaging, net conferences, and net phone.

Distance Learning teachers should consider the purposes of the different synchronous and asynchronous interaction possibilities in order to select that which can best meet their particular needs (see tables 1 and 2). For example: a discussion board can be used to:

- provide a discussion area for homework, tests, reading, conversing with the professor;
- provide information about course materials; or
- achieve both of the above purposes.

There are further considerations Distance Learning instructors might wish to determine when implementing synchronous interactive web sites. These include:

- Does the instructor have the necessary time out of class to devote to live-person synchronous interaction?
- Are the students are able to get together (log on) at common times?
- Can the server handle all of the anticipated users concurrently?

Some online examples of interactive technologies for courses include:

Web Forms:
- Using web forms and email for assignments: HtmlResAnchor http://www.rit.edu/~kecncp/leaders.htm;
- Using MS Word forms for research projects: HtmlResAnchor http://www.rit.edu/~kecncp/160/cc-part-1-2-research.doc;

Message Boards at NTID:
- Message Boards are being used in several courses for Deaf students at NTID. I have found them very useful for short writing assignments and for stimulating peer review of students' work. College Writing — HtmlResAnchor http://www.rit.edu/~kecncp/discus (moderated by KEC)
- Other professors have put them to use for job interview practice situations and for art seminar discussions. Job Search and Freshman Art Seminar — HtmlResAnchor http://www.rit.edu/~jfknc4/discus (moderated by J. Kelly)

Chat Rooms General Audience:
- Chat and Newsgroups are online for English second language learners. http://esl.about.com/education/esl msub1.htm?iam=mt&terms=%2Bchat+%2Brooms+%2Bfor+%2Blearning+%2Benglish
- One-on-one software is available from ICUII and from MS Netmeeting. These work adequately for slow signing when each user is seated near a webcam. However, this technology is advancing rapidly; we can expect to see significant improvements soon. HtmlResAnchor http://www.microsoft.com/netmeeting
- Group chatting software is offered by iVisit and SeeMeHearMe.

To make intelligent decisions about which web technologies to incorporate into DL can be confusing. The development team needs to consider a variety of factors. It seems reasonable to

Table 1. Advantages and Disadvantages of Using Online Interaction

Advantages	Disadvantages
• Interaction provides positive group support. • There is an authentic context for interaction. • Users can decide which issues to initiate and when to participate. • A positive evaluation is achieved when other participants understand you. • Motivation is fostered when understanding is achieved. • Self-confidence results when participants have common interests. • These positive outcomes promote a desire to continue learning. • Independence in learning is rewarded. • Users become familiar with questioning strategies for clarification, correction, and expansion of ideas.	• Interaction requires an ISP that is up and running. • Users need basic computer skills. • Computers do crash from time to time. • New users and learners may feel threatened when topics are too far outside of their knowledge areas. • Sometimes users' questions and comments may get few or no responses. • The moderator's role can be time consuming.

Table 2. Similarities and Differences for Synchronous and Asynchronous Online Interaction

Similarities

- There is a variety of software; much of it is free and relatively easy to set up.
- Users may never get a direct response to your comment.
- Users may contact many or few suitable conversational partners.
- Users need to know appropriate etiquette and learn some netspeak terms.

Differences

Synchronous	Asynchronous
• Time-bound conversations. • Must arrange a specified time to participate. • Can interact only with those presently online. • Fast and free-flowing conversation may be hard for second language learners to follow (much chat is very informal and relaxed). • Multiple conversations occurring simultaneously may be difficult to follow. • One-to-one (IM) allows for individual conversation. • Messages are *fleeting*; can't be referred to later except if saved.	• On-going conversation. • Can drop in any time. • Can interact with people not presently online • Slow paced conversation allows more time for understanding and formulating thoughts (more opportunity for formal, thoughtful discussion). • Conversations are usually arranged by topics • Private conversation on a one-to-one basis is impractical. • Messages are permanent for later reference.

first weigh the advantages and disadvantages for the first decision, that is: Should you use online interaction for your DL project? Once the decision has been made to go with online interaction, the team will need to consider whether to incorporate synchronous and/or asynchronous interaction features. Tables 1 and 2 present some considerations you will need to evaluate in making these decisions.

Videoconferencing and the Deaf Learner

What is Videoconferencing?

Videoconferencing is the transmission of image (video) and speech (audio) back and forth between two or more physically separate locations. This is accomplished through the use of cameras, video displays, microphones, and speakers. Videoconferencing can be point-to-point (between two endpoints) or multipoint (combining two or more endpoints into the same "conversation"). Videoconferencing is live, synchronous, and closely resembles a traditional classroom setting. It uses compressed video over T1 or ISDN lines to send and receive audio and video signals.

Why Use Videoconferencing?

Videoconferencing could be applied in two general situations: a) those where you are already able to communicate with someone who is not physically nearby but wish that communication could be richer, and b) those where you wish to access or communicate to an area that may or may not be nearby but is limited by situational or physical restraints. In these situations, communication is already occurring but could be made more effective or less expensive via videoconferencing.

General Uses of Videoconferencing in Education

For meetings that already regularly take place and require face-to-face communication, video-conferencing can substitute for the actual physical presence of remote participants. This reduces travel costs as well as travel time and makes meeting attendance more convenient and likely to occur. Videoconferencing provides remote participants with face-to-face familiarity that comes with physical presence, including facial expression, body language, and eye contact. Other examples of videoconferencing in education are: collaborating with documents and applications over a network, large and small class lectures, presentation planning, proposal preparation, student projects and scientific research.

What Basic Hardware Is Needed For a Videoconferencing Setup?

Videoconferencing terminals must have a few basic components: a camera (to capture local video), a video display (to display remote video), a microphone (to capture local audio), and speakers (to play remote audio). In addition to these components, a videoconferencing terminal also includes a codec ("Compress /Decompressor"), a user interface, a computer system to run on, and a network connection. Each of these components plays a key role in determining the quality, reliability, and user-friendliness of the videoconference and the videoconferencing terminal's suitability to particular purposes.

What are the cost factors?

A basic videoconferencing setup as described above would cost approximately $55,000 for the hardware. Other costs to be considered would be the monthly rental of an ISDN Line, toll charges for individual calls (the party who places the call, pays for the call), and an annual warranty plan. Costs for technical service and instructional personnel would also have to be figured into the cost of videoconferencing.

Videoconferencing Scenarios at NTID

NTID has been exploring the use of videoconferencing for the past three years. The following are some examples of how videoconferencing technology has been applied:

- An NTID panel of students connects with the Greater Los Angeles Council on Deafness (GLAD) and Gallaudet to learn about admissions and recruitment
- Japanese faculty from Tsukuba College of Technology connect with NTID as part of a grant that explores software applications as applied to deaf education (Figure 4). In Japan, ISDN technologies are more

popular, are often found in the home, and are used for Internet access and telecommunications.

- A French student attending RIT for a degree in fine arts uses videoconferencing capabilities to connect with students and teachers in Paris at SPEOS for progress reports.
- An NTID faculty member teaches interpreting students in eight different states.
- The Director of Product Development Program at RIT conducts all day conferences with MIT (Boston) and University of Detroit to collaborate on the design of new courses in Leadership and Product Development.

Conclusion

Is Distance Learning Effective?

Distance Learning can be as effective as traditional instruction when the methods and technologies used are: 1) appropriate to the instructional tasks, 2) designed to include student-to-student interaction, and 3) able to provide timely teacher-to-student feedback.

What Should Educators of Deaf Students Do To Prepare For Distance Learning?

Educators of Deaf students have a definite advantage when it comes to Distance Education in that they already know how to adapt teaching for visual learning. When these teachers adapt a course for distance learning, they already have a large collection of visual presentations, such as tables, figures, and illustrations to depict concepts. This greatly simplifies the development effort. When planning for distance learning educators of Deaf students should plan to: (1) focus students' attention on visual presentations, (2) illustrate key concepts using tables, figures and other visual representations, (3) encourage interactivity, (4) allow for student group work, and (5) be prepared for technical problems.

However, educators of Deaf students may work in environments where they do not have many colleagues who also teach Deaf students. The last part of this presentation was devoted to sharing ideas for distance learning among the participants. An online Distance Learning network for these educators would allow them to share their ideas and experiences, ask questions, and get information from their colleagues. As a follow-up to this presentation, we propose to establish a web site for such a network and have collected names of interested participants.

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A Practical Application of Technical Assistance in a Community Based Rehabilitation Program

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Abstract

Academic needs of Deaf students coupled with funding issues created the need for an innovative distance education course between two post secondary institutions. Funding issues created a strict enrollment policy that threatened the small, specialized English classes for Deaf students. The challenge to preserve these classes and meet the enrollment requirement caused the staff to turn to technology as a way of providing instruction in a unique way.

Oklahoma's new intercollegiate/university distance media, ONE NET, was chosen. Using this technology would allow more Deaf students from other institutions to benefit from a specialized course taught by a Deaf instructor; thus reducing the replication of programs and enhancing the ability to share resources

It is the hope that by sharing trials, errors and successes of this pilot program other colleges and universities will investigate distance education and the use of technology as applicable to further their educational outreach to Deaf students.

Technical assistance is a process that simultaneously involves a personal relationship and program development. This is a case study of an organization that received technical assistance, Diversified Personnel Services (DPS), and the agency that provided technical assistance, the Center for Sight and Hearing (or the Center) an Outreach Site of the Midwest Center for Postsecondary Outreach at St. Paul Technical College, St. Paul, Minnesota. The initial contact was made by DPS for assistance to expand their existing job placement program to include persons who are Deaf or Hard of Hearing. The process began with a needs assessment that provided DPS with a picture of available resources and additional resources needed to establish the program. DPS approached the Center and, after an initial consultation, accepted technical assistance. As the personal relationship among the authors of this case study developed, so did the trust necessary to maintain this process of technical assistance. The end result of this partnership was a successful expansion of the placement program and improved services for individuals who are Deaf or Hard of Hearing.

Technical assistance, as practiced in PEPNet, is a peer to peer process with the goal of establishing or expanding services for persons who are Deaf or Hard of Hearing. The term *technical assistance* may be defined in a rather fuzzy way as advice or information provided on or off site to direct service delivery staff, support personnel, or administrators to meet the broad goal of improving services. One way to explain technical assistance is to look at an example in-depth from both the perspective of the agency requesting assistance and that of the provider. This case study examines the relationship between Diversified Personnel Services (DPS) and the Center for Sight and Hearing (the Center), an Outreach Site of the Midwest Center for Post-

secondary Outreach at St. Paul Technical College, St. Paul Minnesota. The process of technical assistance may occur as follows:

- Assessment of the needs of the consumers, funding source, and agency;
- Determination of available resources from the consumers, funding source, and agency;
- Identification of needed resources to institute the program or service;
- Development of a proposal for technical assistance to include details of what is to be done and the expected outcomes; and,
- Delivery and receipt of technical assistance.

The relationship between the two agencies is examined as it developed along the lines as listed above.

Agency Description

Diversified Personnel Services is a division of Opportunities, Inc., with offices in Fort Atkinson, Watertown, Waukesha and Oconomowoc, Wisconsin. The agency employs 90 personnel and has an annual operating budget of $12 million. In operation since 1966, Opportunities Inc. has multiple funding sources including the Division of Vocational Rehabilitation, Special Education, the sale of various prime manufactured items and subcontract work with local business and industry. Opportunities Inc. served 900 persons with disabilities in 1999 and placed 150 into competitive employment. DPS is an employment service for business and industry in central Wisconsin and places both disabled and non-disabled people into the workplace.

The Center for Sight and Hearing is a community rehabilitation program located in Rockford, IL. In operation since 1962, approximately 400 persons with a hearing and/or vision loss are served annually in a variety of programs ranging from job placement to low vision examinations to an after school program for children who are Deaf. One part of the Center's services is as an outreach site for the Midwest Center for Postsecondary Outreach at St. Paul Technical College in St. Paul, Minnesota. Outreach activities include dissemination of information about serving students who are Deaf or Hard of Hearing, professional development activities for faculty or staff, and technical assistance as requested.

One of the most important elements of the technical assistance process is the relationship developed between the persons giving and receiving technical assistance. The four persons involved in this process wrote this case study and while the organizational affiliation is used to indicate the elements of implementation, it is equally as important to recognize the relationship aspect of technical assistance.

The Technical Assistance Process

Because the request was initiated by DPS, the process started with them and began with two concurrent events. First, a vocational placement specialist with experience serving persons who are Deaf was hired by DPS in May 1996. The specialist began providing limited placement services to the Deaf population in the counties surrounding the DPS office. Next, the vocational rehabilitation counselor for the Deaf and members of the community approached DPS and asked them to expand their existing job placement services. Specifically, the request was for DPS to become more intentional in their efforts to serve persons who are Deaf or Hard of Hearing by establishing a program.

Assessment of Needs

DPS conducted a needs analysis through informal discussions and formal meetings with Deaf consumers, personnel from the Division of Vocational Rehabilitation (DVR), and internal staff. Three distinct needs were identified:

1. Individuals who are Deaf or Hard of Hearing needed a service within their mostly rural, underserved community;
2. DVR needed the service to meet community demands; and,
3. DPS was providing traditional job placement services, and these were not adequate to meet the needs of Deaf individuals referred for assistance with job placement.

Determine Available Resources

As part of the needs assessment, DPS also looked at resources currently in place. Within the organization, one skilled deafness professional was on board and functioning within an already established placement program for both disabled and

non-disabled workers. There were also existing administrative supports (management, business office, established offices in three towns, etc.) and an organization that was well known in the community. DPS was already connected with the Workforce Development Center and numerous public and private sector organizations. In addition, upper management was supportive of the idea to establish a program for persons who are Deaf or Hard of Hearing.

Another important factor was the very strong ties DPS had with the potential funding source, DVR. The adult DPS programs are outcome-based so payment is only for services that are successful— such as, a person is placed on a job for at least 90 days. The DPS/DVR relationship was strong, because DPS had a proven track record. In addition, DVR had a potential to fund the project with a combination of state and federal funds.

Identify Needed Resources

DPS had a vision of what was to be accomplished—develop a job placement service for individuals who are Deaf or Hard of Hearing. They also identified supports in place to assist the program's success and a likely funding source. The timing was right to propose the placement services specifically for this population. DPS needed to formalize the proposal and sought technical assistance to accomplish this goal.

During a discussion between DPS and DVR, a DVR counselor suggested DPS contact the Center for possible technical assistance. The counselor's suggestion was the result of outreach activities from the Center to the Wisconsin DVR offices. DPS contacted the Center and the idea of a placement program for Deaf and Hard of Hearing individuals was discussed.

Development of a Proposal

A verbal proposal between the four authors of this case study was developed at a meeting at the Center. Specific assistance was needed to develop, write, and deliver a proposal to Wisconsin DVR. Because there was no formal request for proposals, there was not an official format to use to develop the written proposal. In addition, because this was a unique program in Wisconsin, there was not a model to aid in proposal development.

The ensuing verbal contract was for the Center to help develop a proposal outline, to review and provide feedback on the written proposal, and to assist with preparation for the oral presentation. During the writing of the proposal, an additional request for the Center staff to serve as program evaluators was added.

Delivery and Use of Technical Assistance

Writing of the proposal fell on the shoulders of DPS; editing and assistance with targeting key concepts was provided by the Center. One example involved a clarification of the role of the deafness professional. Because the proposal was to be reviewed by persons who may not be familiar with a professional who is also fluent in sign language, it was important to make sure that a distinction was made between providing communication assistance and interpreting. Interpreting was already available in the area and it would be easy to see this as a duplication of services without a clear explanation.

In November 1998 DPS was awarded a Third Party Establishment grant to begin in December 1998 and end on September 30, 1999. The goals for this nine-month cycle were:

- Admit and serve 30 people from five counties;
- Place 20 people into competitive employment;
- Close 8 individuals as successful, which means that the individual completes at least 90 days of employment.

At the end of the first year, Center staff were invited to evaluate and celebrate the first year. The on-site visit had two components. First we had fun and a dinner. Next, we toured the facilities and reviewed the year's results. The program was quite successful as thirty-five people were served, twenty-two people were placed, and eight people were closed successfully in a variety of jobs. Assistance was also provided on the grant year-end report format, and some changes were made in the data collection and interpretation procedures for the next cycle.

Recently, Center staff assisted in the development of an evaluation report format for the second year that accentuated DPS' successes and clarified the statistical presentation. The provision of technical assistance continues to

date in the areas of data collection, reporting, and program evaluation.

Building the Relationship

Two of the key elements that contributed to the success of this technical assistance are trust and mutual respect. DPS staff had to risk sharing of their need for assistance with proposal development and trust the assistance provided. Center staff recognized the expertise of DPS staff and served as providers of information and suggestions as a complement to enhance the DPS program. This relationship took time and evolved over many telephone calls, emails, and face-to-face meetings. As the trust grew, it became easier to give and take suggestions because the goal was and is to improve services.

Summary

Technical assistance is a process that simultaneously involves a personal relationship and program development. In this case study, the initial contact was made by DPS for assistance to expand their existing job placement program to include persons who are Deaf or Hard of Hearing. The process began with a needs assessment that provided DPS with a picture of available resources and additional resources needed to establish the program. DPS approached the Center and, after an initial consultation, accepted technical assistance. As the personal relationship among the authors of this case study developed, so did the trust necessary to maintain this process of technical assistance. The end result of this partnership was a successful expansion of the placement program and improved services for individuals who are Deaf or Hard of Hearing.

Communication Access Realtime Translation (CART) In the Classroom

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Abstract

Effective communication access for non-signing Deaf, deafened, and hard of hearing students is an area of concern for postsecondary programs. This workshop provides information on using communication access realtime translation (CART) in the classroom for students with hearing loss. Information is provided on identification of qualified CART providers, use of transcripts, ethical/copyright considerations and software that may be used. The institution needs to develop a policy and process for selecting the best accommodation for students.

Steve Larew: This workshop will provide information about the use of Communication Access Realtime Translation or CART in the classroom. I will allow Pat and Gayl to do the talking about CART as they are experts in the area. I am here as a deafened adult to promote the need for more CART access in college classrooms. A large number of deaf people are not able to benefit from sign language interpreters or lipreading in classes.

We are here to explain CART. None of us has in-depth knowledge of C-Print, which is a new method of providing speech to text translation. My information comes from the recent satellite teleconference. It was explained that C-Print would provide 8 pages of notes compared to 20 pages in a CART transcript. My question is, what information is missing? I do not have the answer.

As a student, I would appreciate knowing I am able to read all the information and class discussion occurring with CART. However, when class is finished, it would be easier to read the C-Print transcripts than the CART transcripts. I am sure it will become a question on economics when colleges and universities decide which method they will choose. There are pros and cons to both methods and the colleges and universities will have to make their decision based on what is best for the student.

Gayl Hardeman: I have been a court reporter since 1970 and became a CART provider in 1992. In 1993 at Boston University, the number of enrollees who wanted CART grew from one to eight in one summer. I had to create eight CART reporters from "court" reporters in one summer. These were already highly skilled court reporters, and in one day, to begin to build the non-court dictionary/database, they learned to enlarge text, to reformat their periods and question marks so that at the end of every sentence a new line would happen, so that there would be more white space on the page, and the page would be easier to read. The university provided textbooks for all classes to the reporters and hired me to implement a program of payment, quality checks, and appropriate scheduling.

In training CART reporters, we make sure that they have a certain speed so they can keep up with cross talk and with professors and students who often have accents. We train them to be able to paraphrase, which is totally against your training in court reporting; you are trained to get every single word. So you have to go against all your training to paraphrase and to include environmental sounds.

Pat and I both serve on the National Court Reporters Association (NCRA) task force.

CARTWheel has a website for education at www.machineshorthand.com.

We need to teach sensitivity, and we need to teach about the ADA laws, because we, like interpreters, become advocates for our clients, especially in classrooms where the professor doesn't have a clue what we do, or why we're here. In Massachusetts, the contract rate is a two-hour minimum and a half an hour of prep time. It is one hour of prep time, if it's a day-long event.

NCRA has offered many interactive teleconference and long distance seminars, one on CART. We got people's attention by recommending some ethical guidelines. There will be publication of a CART manual by NCRA this year.

Part of our training involves learning sign language. We teach sign language courses so that we can at least say 'how are you? My name is. . . . Can you read the screen okay?' We are trying to learn sign language. It is difficult, because many of us are not around people who sign. We are trying to develop a videotape on sign language for CART providers.

We need everybody we have—C-Print, realtime captioners, and interpreters, to work as a team to meet the needs of the students. I have often wondered as I'm writing this art history for one person, why am I not showing everybody this? It seems like such a waste. I know there were many foreign speaking students struggling with English who could have been helped by seeing the words.

Regarding software, it's called Live Note or Case View. Case View is less expensive. Case View is available from Stenograph Corporation. They have a dot.com. See what I mean about our language? Casé View costs about $175, and is installed on the user's computer. If your student takes his or her computer to class, the CART provider can output to the student. The student can have the CART coming in on his screen. As he reads something important, he hits the space bar. The space bar highlights the text. Rather than write down anything, he hits the space bar. At the end of the lecture, you can call for a printout of the marked passages. You have had the benefit of all the text coming through but at the end you have made the notes. You may have a page and a half or two-pages to take home with you. I think it's an excellent investment.

With a splitting box, a CART provider can output to a deaf student, to Case View, and to the screen for everybody else. For $175 you receive five applications. We have a splitter box and it can go up to five students at the same time. They can make their individual marks. You can hit control n and type in a note or type in a question for a non-speaking deaf person. The CART reporter or another student can read and voice for the student. Live Note is another program but it is expensive.

To reduce the number of pages in a CART provider's text file, a transcript can be delivered via e-transcript, which creates a self-executable, searchable file and allows printing of condensed text (4 pages per page). E-transcript, produced by PubNetics, is found at <www.RealLegal.com>. The program costs about $700. Anyone can use it to reduce the number of pages one must print.

Pat Graves: This is a strange role for me because I am used to sitting behind the machine. I was a court reporter for 14 years and worked in several different states. I got tired of working with attorneys who were fighting with one another. I took the challenge and switched from court reporting to CART providing. I am one of the few people who provide only CART.

I want to start by defining some terms. Everyone uses "captioning" for everything. No matter what we do, people call us captioners. **CART** is communication access with a full screen of text. **Captioning** means you have an image of the speaker with text at the bottom of the screen.

Post-production captions are the captions that you see on videotape. Those are done after the tape has been created. The captions are placed all over the screen where the least amount of action is shown.

Realtime captions are done live. Post-production captions are made after the fact.

Closed captions are hidden captions. You turn on your TV and you have the image of the speaker and the captions are underneath it. **Open captions** are there for everyone to see.

Finally, CART providers are not typing! People always say, you type so fast. I'm actually a terrible typist- 80 words a minute with about 49 errors! We are writing using machine shorthand.

I was fortunate to serve on the Illinois task force for CART. Our state rehabilitation agency list of CART providers consisted of four people. This task force was formed in 1997. We provided training in Illinois for court reporting students and court reporters interested in CART. We called

this a sensitivity training. People can develop their skills, but they need to understand whom they are serving. We are serving people with hearing loss, so we become their ears like interpreters do. We talked about assistive listening devices. We had interpreters for the sessions, and we asked them to come out of their role and discuss ethics and professionalism.

We also had a panel of consumers who told of their life before and after CART. Most of the consumers were deafened. The change in their life from hearing to not hearing, between having CART and not having CART, is drastic.

The next part of our training was ethics and equipment. We have a state code of ethics and we are trying to develop a national code of ethics. In an organization where we are all ethical, the members have different guidelines. CART ethics mirror the code of ethics for interpreters. The ethics include confidentiality, professionalism, and staying in your role.

The last part of the training was advanced skill training. People attended this training and they were still scared to do CART. Why? We spill our guts. It is obvious when we are having a bad day and reporters don't want to do it. We offered advanced hands-on training to make them more comfortable. Bring your machine, hook it up to the overhead. See how it feels, play with your colors, check your fonts, etc. After this training, the list in Illinois has grown to 15 CART providers. In your states, you may want to approach the court reporting association and inquire if they have provided CART training. If not, encourage them to do it.

The question is: can we take court reporters who haven't passed the state and national tests and put them into the CART setting? That is an ethical question. This is the world according to Pat Graves. There needs to be a baseline and the baseline we have chosen is the state and national certification. Our task force said all providers have to have passed the state certification.

I am not sure what is done across the country. There are pockets of CART providers providing the service and we have made up our own rules. It is embarrassing to say but I have made up all my own rules. My rule is: I pay an hourly rate to the captioners that work for me. If they are certified, the rate is higher.

Texas has developed a test similar to what the interpreters have. They are evaluated with level one, two, three, four, five. I think it would be a great thing to do in Illinois and nationally. Once we get past the ethics issues, our task force needs to address national certification

There are different tests and certifications. We have state tests which say you are qualified do court reporting. Not all 50 states have mandatory certification tests for court reporters. The state tests include testimony at 225 words a minute and the jury charge, which would be what the judge would say to the jury, at 200 words a minute. We have a category called literary or speeches. That is actually the hardest but the speed is the lowest, 180 words a minute. Those are the three parts of most state tests, and then written knowledge.

For people who live in a state that does not require certification, the National Court Reporters Association has the same tests, the same speeds, and same categories. You can get the state certification and/or the national certification. If you are a glutton for punishment, you can go for a higher speed and higher certification, and that's testimony at 260 words a minute.

Another test is the certified realtime reporter(CRR),which is literary and fluctuates between 180 and 200 words a minute at 96 percent accuracy. The difference is, for certification, you have one hour to transcribe five minutes of dictation. You can polish your notes and make the transcript perfect. When you take the realtime test, you write it and turn it in.

Our computers are friendly and tell us how many times a word appeared that it could not translate, or untranslated strokes. The computer comes up with a number, and that number, as a rule of thumb, should never be greater than 2% untranslated, or 98% accurate. The reality is you have to double, sometimes quadruple that number. Sometimes we have words that don't translate. Sometimes we have words that grab the word before it or behind it. We call them word boundary problems. It translates as English, but those are mistakes.

One example is the word Olympic. In reality it could come up Oh, limb, and pick, three syllables. That is three errors. My untranslated rate generally is .2. That is 99.8 percent translated. If I look at all the mistranslates, I would probably be around 99.2, maybe 99 percent.

I have recently developed what I call four corners of responsibility—School, Professor, Student, and CART provider. These are four areas related to providing CART in the classroom.

The first corner is the school, which is responsible for finding the right accommodation. It might be a notetaker, CART, or a sign language interpreter. You talk to the students and ask what they need. After determining the need for CART, you find a CART provider and demand quality. Ask for translation-error rate and demand quality services.

The school is the coordinator of the other three corners. The school needs to make sure we are talking to one another. The CART provider and the school need to work together to train the professors.

It is the student's job to go to school. We hope they attend class and realize the amount of work involved to put support services in place. There are guidelines the student needs to follow.

The students need to be aware of the coordination. With some universities, I was put into the role of tattling. The CART providers were driving two and a half hours to arrive in class on time. What I did was send a letter to the school, the students, and to the CART providers, explaining who is going to support you on Monday, Wednesday, and Friday. Here are the phone numbers. If you are not going to class, call us. For me, if I don't go, I wouldn't charge the school that day. I don't charge for the days that there are tests. That's bad business.

When I would send bills, there would not be an invoice for a day. If my CART provider showed up, they wouldn't stay the full-time. They might stay for a two-hour minimum, so the charge would be less. The school would call and ask, 'why did you not charge me?' Or 'why did you charge me less?' I would tell them that the student didn't go to class. They would become angry because the student never told them.

The professors are tough. Sometimes they take suggestions and sometimes they do not. I prefer to meet the professors before the class starts. For one school, I met the professors ahead of time, and it was great. For other schools, we walk in and the professor says "who are you?" It is disheartening because they don't know what we are about. With communication, barriers can be minimized.

I have done many math classes. The professors write on the board, turn their backs, talk to the blackboard, and say, 'you add this and this and you get that.' It is useless. What we want them to do is be a little more descriptive. When you get into algorithms, that is more difficult because you have big N's and little n's and numbers to the Nth power.

Have you seen the cleaning carts used in the schools? I got a cleaning cart and put a camera on it with the encoder, which is what mixes the camera signal and the three lines of captions on the bottom. I would roll my cart into the classroom and put the camera onto the screen. The whole class was slides of anatomy. We had body slides the whole 90 minutes, and I would caption underneath it.

Another issue with professors is preparatory material. The books and the syllabus are important. The syllabus is passed out on the first day, but if CART providers could get the syllabus beforehand, it would be ideal. I do not build in a lot of prep time. I prepare, but I do it ahead of time. Every CART provider is different. It comes with experience.

The fourth corner is the CART provider. It is our responsibility to know what we are doing and to be able to go the Universities and say, "I can give you a well structured high quality service." That's in the ideal world. Hopefully there might be a meeting halfway if there is no training in your state. If a school has the knowledge, you can push that CART provider to provide quality services.

The school and CART provider need to talk to the professors ahead of time and tell them what is necessary. If communication fails and there is a breakdown, it is the CART provider's responsibility or the student's responsibility to say 'I didn't hear, say it again, I missed one sentence.' The training the professor needs in providing preperation materials and not turning his back and talking to the blackboard, is training that should be done by the school.

Question: Could you tell us how you would address the situation with someone who is afraid there would be a record?

Pat Graves: I think the written guidelines and contract are very important, so everyone knows what they can and cannot do. The first question is, who owns those words? Is it the University? Is it the professor? Is the professor willing to share those memorialized words with the students? I can't tell you the right answer, because every school has different policies. Some schools don't allow tape recording. I hate to throw it back at

you but in fact it is the school's policy, do they allow those words to be captured in a written form?

I worked at a dental school for one year that allowed disks to be placed in the library and every student could get a copy. It is a school mindset if you want to give those transcripts out or not. Putting the notes on the web for student access is another possibility.

Other issues need to be addressed in the contract or guidelines. What happens when the student is late or absent? How long does your interpreter or CART provider stay? Interpreters can leave quietly. CART providers can't leave gracefully. Personally, I have stayed the whole class because I cannot leave without disrupting. How late is late? I had one student who was late for every class. She could not get there. What I would do is give her a one-sentence summary. As soon as she walked in the room, I would start writing.

One school where I work has predominantly night classes. Everyone is working, and the school knows that people travel. Whether the student is there or not, I write it. Another concern is if you have two back-to-back classes, the student misses the first one but goes to the second class. If I leave after twenty minutes, am I supposed to stay for the second class? What do we do if there are four classes and the student only goes to the last one?

The next question is what do you do when a student sleeps? This is very tiring on their eyes. Do you kick them? Do you stop writing? Do you write and then give them the disk? These are issues that need to be put into this letter that the colleges write. I can't really tell you what the right answer is. One person suggested that the CART provider and the student work it out ahead of time. What do you want me to do when I see you are sleeping?

For those of you concerned with costs, I have developed a pricing formula. I am hoping this will help you. There have been some rules of thumb that say double the price of what an interpreter is paid, and that's what the CART provider earns. We work alone. When we go into court reporting, we never think of having a backup. Generally, I never think of having a backup when I do CART. I think that Boston has that policy. It is a new idea to me.

This is how I came up with my rate structure in Chicago. I asked court reporters to honestly clock their time for a couple weeks: What is your average job and what are you paid for your appearance fee? What are you paid for your transcript? With transcripts, court reporters are paid per page. I asked them to average over a two-week period. If you do a two-hour deposition, generally it takes four hours to prepare the transcript. A court reporter will say I made a huge amount of money on a two-hour deposition. It wasn't a two-hour deposition; it was a six-hour ordeal. I asked my friends to average over two weeks, figure out how much money you made, and work it backwards. You take the time of production, divide it into the total amount of money earned, and you come up with your hourly rate.

This formula is good because hourly rates for court reporters and page rates vary around the country. This formula is portable. I'm in Chicago and the rates will be higher? If I were in rural Iowa, the rates would be lower.

Question: I'm from North Dakota, very rural with very few deaf students, and we have been working on remote captioning. Can you give us some suggestions? Our big issue right now is the eleven-second delay.

Pat Graves: I have not done classroom remote CART, but I have done corporate meetings. I will share my experience and see if we can translate it to the classroom. When using remote CART, the people attending are in one place sitting around a table. I listen on the speaker phone. On another phone line I send the words to the modem and they connect with the user's computer.

The speaker phones are terrible. It is hard to pick up the words. I have a device that grabs that phone signal and I feed it into an amplifier. I wear headphones to help understand the speakers. I think the way around it would be possibly people wearing microphones.

Question: I work in a K to 12 setting. We have seven middle-school- and high-school-aged deaf students who are late-deafened, don't know sign language, and can't use the interpreter. Do you have background on using it in the K-12 settings? The issue I deal with is administrators saying they can't read beyond third grade level, but we have kids that do read at 8th grade.

Gayl Hardeman: I know a parent who got CART for his 6th grade daughter. This year she made

the honor roll. It is used in K through 12 and they benefit greatly. I can't tell you at what level it starts being the most useful.

Question: If the University buys the equipment and hires different captionists, can they work off the same software and use the same dictionaries?

Gayl Hardeman: If they have the dictionary in the same software, yes. You can use the same laptop and then change to a different user in that program. We are constantly building dictionaries. Mine is 90,000 words.

Question: Repetitive motion injury for interpreters is sky high as the number of postsecondary deaf and hard-of-hearing students enter the classroom. What is that issue like in your field?

Gayl Hardeman: Court reporting is easier on the hands and wrists than interpreting because our hands are down and the blood supply is down. The steno machine is better than the computer keyboard because there is some resistance. The repetitive motion is not as great if you are pushing something. I know that I have pain in my right wrist when I edit because I'm using the page down arrow and the mouse in the editing process. I have pain in my wrist and have to sleep with a wrist brace occasionally. Vitamin B6 is supposed to be excellent in the treatment of this problem.

It's not as high in court reporting. However, in realtime captioning and CART, it can be difficult if you don't have the right chair. I remember driving home after a three-hour lecture at Boston University where the lecture hall sloped down. I sat squished in one of those lecture hall chairs where the desk table flops up. I sat squished for three hours, and a short break. Driving home, I had a throbbing pain. The following week, I found a chair, brought it into the classroom and hid it behind the podium.

Question: My question is about literacy. How does a person train to be a CART provider, and to spell and write proper grammar? If we sponsor someone to become trained as a professional, what criteria should we consider?

Gayl Hardeman: The criteria should be ideal or excellent English background. We are wordsmithing here. We need to have a strong background in English and spelling. I had a court reporting school years ago with an admissions exam. It was basic punctuation, ten spelling words.

I had a consumer whose vocabulary was poor. She had interpreters and she was good at lipreading, but her vocabulary was poor. She is in a fine University, taking art history, and the vocabulary is intense. I substituted many words. I couldn't do that if I didn't possess that vocabulary. In CART reporting, we train on synonyms. Do you know some synonyms for thwart or predisposed, for example? How can we train someone to become a CART reporter if they don't have those English skills? You can't. They have to get the English skills first.

Innovations in Distance Mentoring: The Video Outreach Mentorship Program for Interpreters

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Abstract

Since its inception in 1996, The Video Outreach Mentorship Program (VOMP), a distance mentoring program through the Western Region Outreach Center & Consortia, has served interpreters in over three dozen institutions through the Western United States and the Pacific Islands. This paper provides the reader with an overview of the program, a description of its components, and an explanation of its challenges and successes.

Introduction

When charged with the mission of improving access to postsecondary education for students who are deaf and hard of hearing in the western United States, the Western Region Outreach Center & Consortia (WROCC) recognized the demand for quality interpreters in the postsecondary setting. In an effort to aid interpreters seeking to hone their skills, WROCC has developed the Video Outreach Mentorship Program (VOMP). VOMP has been modeled after the highly successful one-on-one classroom mentorship program available to interpreters employed by the National Center on Deafness (NCOD) at California State University, Northridge (CSUN.) The program was developed to serve interpreters at institutions where there exist no established mentorship programs. Meeting the needs of such a diverse population in 16 states and Trust Territories has served to be a challenge.

The Program

Interpreters from postsecondary institutions are linked with mentors trained by WROCC and the CSUN National Center on Deafness. Over a four-month time period and at established intervals, mentees receive feedback and suggested resources for skills improvement from their mentors. Communication between mentor and mentee takes place via videotape, telephone, e-mail, online chat, and surface mail. The VOMP Coordinator helps maintain ongoing communication between the mentor and the mentee and helps ensure timely completion of established milestones throughout the mentorship (see Appendix A).

Upon successful completion of the mentorship, the mentee receives a Certificate of Completion; additionally, both mentors and mentees may receive CEUs through RID's CMP and ACET Independent Study programs. The fee for participation in VOMP is $150. Each mentee receives a $75 stipend from WROCC to help defray the cost of participation; the mentee is responsible for paying the remaining $75 prior to beginning the mentorship. When the VOMP program began, mentees were able to participate free of charge. However, a participation fee was established to maintain a higher commitment level, as well as to discourage mentee attrition. Since the implementation of the participation fee, the mentees' home institutions have frequently paid the mentees' portion. Mentors are paid $325 per mentorship with the majority of the mentor's payment coming from the WROCC grant funds.

Since its inception in 1996, VOMP has served nearly 60 interpreters at approximately 40 postsecondary institutions within the WROCC region (Alaska, American Samoa, Arizona, California, Colorado, Guam, Hawaii, Idaho, Montana, Nevada, New Mexico, Northern Marinas Islands, Oregon, Utah, Washington, and Wyoming.) Over the past four years, VOMP has undergone many changes as the program has been refined and improved. The purpose of this paper is to explain the program and its components, its strengths and weaknesses, and to provide a framework for how a distance mentorship program can be administered.

Issues in Distance Mentoring

One of the greatest challenges VOMP mentees and mentors face is establishing quality interaction and learning while not in the same time and space. When individuals communicate in person, facial expressions and vocal tones are easily connected and a sense of rapport can be immediately established. To lessen the effects of distance, mentees are provided with a comprehensive biography of their mentor. Additionally, some mentors prepare introductory videotapes in an effort to make the mentee feel more connected.

The program offers a set of 10 stimulus videos from which the mentee selects two lectures. The selected lectures, one sign-to-English and one English-to-sign, are used by the mentee when preparing an interpreting sample. Since the mentee receives the videotape directly, the potential exists for the mentee to view the lectures prior to preparing the interpreting/transliterating sample, thus impacting the validity of the mentee's work. Also inherent in a distance mentorship format, the use of videotaped stimulus materials presupposes an artificial, rather than live classroom setting.

Established goals can be achieved within a four-month time frame; however, it is critical that both the mentee and mentor have a realistic picture of the amount of progress that can be made. One of the realities of distance mentorships is that they do not always progress at the same rate as face-to-face mentorships.

Another challenge VOMP faces is communicating primarily through the written word. Mentors and mentees are provided with a manual containing instructions, forms, and readings. Participants often overlook critical details when printed in black and white. VOMP continues to revise its printed materials to keep information simple and visually formatted.

Scheduling phone and online appointments sometimes presents frustration for both the mentor and mentee. At times, e-mail systems are down or one party is unable to check e-mail for several days resulting in frustration and delay in accomplishing mentorship goals. Due to the time delay between contacts and discussion on the videotaped sample, the mentors and mentees need to be prepared for delayed gratification. Patience during the unfolding process of a distance mentorship is a must!

Program Philosophy

Initially, VOMP's program designers felt that a distance mentorship was different – that it required a different theoretical approach. Mentoring via distance was thought to require a different set of tools and more ingenuity to effectively reach the mentee. After its first trial, program administrators and mentors realized that the goal was actually to attempt to replicate or mirror as closely as possible the elements of a face-to-face mentorship while understanding the limitations of a distance format. Since mentees come from a variety of experiential backgrounds, from brand-new interpreters to certified, seasoned practioners, the VOMP program seeks to use a theoretical orientation known as *Mentee-Centered Learning* (Gish, 1997). The process challenges traditional educational practice in that the student or mentee directs the learning, while the mentor follows the mentee's lead. Gish writes, "...this process is not about what you know, but about listening to, and being honestly interested in what your colleague [mentee] knows and/or discovers about her/his interpreting process." (Gish, 1996, p. P-93).

The goal of the mentorship is to produce mentees who are self-regulated rather than other-regulated. Developing the ability to analyze one's own work enables the mentee to continue to grow outside the confines of an established mentorship. Locating mentors and mentees who are open to this type of mentoring where guided-self analysis is used, (Gish, 1994) is not always an easy feat. Many mentor interpreters have been trained under a diagnostic model where they intend to fix and provide direct feedback on the interpreted

product. In the VOMP program, by contrast, the mentor's goal is to ask fruitful questions such as: "What factors led you to that decision? Is that a pattern for you? What can you do to address that issue?" (Gish, 1994).

As part of the initial mentorship packet, each mentee receives an introductory videotape containing several minutes of footage taken directly from the mentor training seminar demonstrating mentoring techniques reflecting the program's philosophy. One of the significant readings (see Appendix C) explains the Gish processing model (Gish, 1996), a goal-to-detail model that has been of great help to interpreters and those who train them.

The Application Process

Recruitment for participation in VOMP occurs in several ways. In the first years of VOMP, specific postsecondary institutions were targeted for recruitment. Letters describing the program were sent to interpreter coordinators at those institutions. Mentees were then referred to the VOMP office after their coordinators informed them of the program's existence. In later years, interested interpreters and interpreter coordinators have contacted the VOMP office indicating an interest in participating.

Mentees apply for participation in VOMP by completing a 2-page application (see Appendix B). The application asks for the mentee's contact information, reasons for wanting to participate, and their background and experience in interpreting and within Deaf community. If an applicant satisfies the requirements for participation (see section *The Mentees*) and if space allows, he/she is admitted. If no space is available, the mentee is placed on a waiting list and offered the opportunity to participate in the next phase of mentorships. Applications are sent out in November and December of each year and are due in January or February. Currently, one phase of mentorships is conducted per year, beginning in the spring.

The Program Coordinator

The VOMP coordinator is responsible for all aspects of the program from recruitment of mentors and mentees to the day-to-day operation. The position requires the ability to work with detail, write clearly and concisely, interface with interpreters over a large and diverse geographic area, and communicate via phone, e-mail, and surface mail. Because the coordinator's post is broad—involving contact with the VOMP stimulus materials, pairing the mentor/mentee dyads, researching resources for mentors and mentees, dealing with field jargon, etc.—it has proven beneficial for the coordinator to also be an interpreter. The interpreting community is small, however. As a result, the coordinator may function in other venues as employee, team interpreter, colleague, or friend to the mentors and other participants in VOMP. It is therefore important to understand that potential role conflicts may occur as the coordinator deals with problems that arise over the course of the mentorships.

The Mentees

Individuals participating as mentees in the Video Outreach Mentorship Program must:

- Work as an interpreter at a postsecondary institution in one of the states and territories within the WROCC region.
- Commit to the four-month mentorship period during which he/she must complete assigned readings, prepare a videotaped interpreting sample, and communicate regularly with his/her mentor via e-mail, phone, and/or surface mail. Should the mentor and mentee find it necessary for the mentee to complete additional assignments over the course of the mentorship, the mentee must be willing to commit to the additional time required. Generally, the total hours spent over the course of the four months does not exceed twenty (20) hours.
- Have an e-mail address that he/she can access at least one time per week. The e-mail address must be in place prior to the beginning of the mentorship.
- Be accessible by phone.
- Have access to the following equipment at least once during the mentorship: a television, a VCR, and a video camera with microphone.
- Pay the participation fee, or arrange for

his/her institution to pay the fee, prior to beginning the mentorship. The participation fee is $150; the mentee's portion is $75.
- Locate someone willing to serve as the liaison between the postsecondary institution where he/she works and the VOMP office (usually the interpreter coordinator or someone in a similar position).
- Possess a strong commitment to skills enhancement and able to organize his/her time in such a way that he/she can meet the time deadlines delineated in the VOMP Timeline (see Appendix A).

The Mentors

Although mentors can be recruited from any geographic area and specialization, due to the nature of the WROCC grant the mentors in VOMP are postsecondary educational interpreters from within the WROCC region. Fortunately there exists a cadre of mentor interpreters at the NCOD from which to recruit for VOMP. In addition, several other mentor interpreters from within the greater WROCC region have been recruited and trained.

In order to participate as a mentor in VOMP, an interpreter must:

- Be employed by the National Center on Deafness (exceptions may be made to this requirement by special request).
- Work at an advanced level (have achieved a minimum of level 5 on the 6-level CSUN/NCOD pay scale).
- Hold RID certification (CI, CT and/or CSC) or possess the NAD/CAD level 4 or 5. (Exceptions may be made to this requirement by special request).
- Be approved by the Coordinator of the Western Region Outreach Center & Consortia.
- Be knowledgeable of the requirements for a successful interpretation, various philosophies/methods of mentoring, and be able to effectively communicate that knowledge using a distance format.
- Strongly desire to help postsecondary educational interpreters develop and improve their skills.
- Possess the self-discipline needed to follow through and complete the mentorship time deadlines established by the VOMP program (see Appendix A).
- Successfully complete the VOMP mentor training.
- Have an established e-mail address and access messages at least once per week.

The Institutional Liaison

Due to the distance aspect of VOMP, it is important for the VOMP office to have a contact person within the mentee's home institution, hence the establishment of the *liaison*. In general, the mentee's interpreter coordinator or DSS coordinator has served in this capacity. The responsibilities of the liaison are as follows:

- Provide the interpreter applying to the VOMP program with a letter of recommendation indicating his/her support for the interpreter's participation as a VOMP mentee.
- Help the mentee obtain e-mail through the employing institution. In addition, the liaison may be called upon to provide the mentee with a way to access his/her e-mail at least once per week throughout the mentorship period.
- Assist the mentee in locating equipment necessary to prepare the videotaped interpreting sample. The following equipment is needed: a television, VCR, and a video camera with a microphone. Additionally, the mentee's campus audiovisual center may be able to provide the mentee a place in which to prepare the interpreting sample.
- Assist the VOMP coordinator in contacting a mentee should the need arise. If, for example, the mentee cannot be contacted for an extended period of time, the VOMP coordinator may contact the liaison for assistance.

The Stimulus Materials

As previously stated, one of the major activities of a VOMP mentorship is the preparation of a

videotaped interpreting sample. Throughout the project the collection of stimulus materials available to the mentees has grown. VOMP has sought to provide a broad range of materials typical to a postsecondary setting. The materials consist of spoken lectures given by CSUN faculty and formal signed presentations given by CSUN students who are deaf.

From the list of available topics (see listing below), the mentee (with the mentor's input) selects one signed and one spoken lecture. The lectures are chosen for their appropriateness to fulfilling the mentee's goals. See figure 1.

Prior to starting the mentorship, each mentor receives a single video containing all available stimulus materials. The video enables the mentor to preview each lecture so that he/she can better aid the mentee in the selection of stimulus tapes.

The "Model Series"

At the conclusion of the second phase of VOMP mentorships, mentees indicated on their evaluations (see Appendix D) a desire to see an "appropriate" interpretation/transliteration of the stimulus materials that they had used when preparing their interpreting samples. To satisfy the mentees' need for a sample translation, a "Model Series" has been developed and made available on loan to the mentees when they complete their mentorships. In keeping with the VOMP philosophy, and to avoid the mentees developing fears of incompetence or idolization of their mentors, VOMP does not encourage mentors to make a tape of *themselves* interpreting/transliterating the stimulus materials for their mentees. The video series features several models interpreting and/or transliterating the stimulus lectures. The tapes *Model Series I* and *Model Series II* are available to any interested individual for purchase or loan through the PEPNet Resource Center (Web address: http://prc.csun.edu; mailing address: PEPNet Resource Center, CSUN, NCOD, 18111 Nordhoff St. Northridge, CA 91330-8267; toll free phone number: 1-888-684-4695.)

Evaluating the Program

At the end of the mentorship, each mentee and mentor completes a VOMP Evaluation Form (see Appendix D). As expected, feedback has been both positive and negative. On the positive side, mentees have stated:

> "It was beneficial seeing myself on video in a non-threatening situation."
>
> "As a very new interpreter, I have many doubts and obstacles to overcome. My mentor was non-judgmental and extremely supportive."

Figure 1.

Sign-to-English Stimulus Tapes	Subject Area
The Friendly Way: Vegetarianism	Sociology
Humankind's Impact on the Environment	Environmental Issues
Obsessive-Compulsive Disorder	Psychology
Socio-Cultural Learning Theory	Cultural Linguistics
Volkswagen: The People's Car	History

English-to-Sign Stimulus Tapes	Subject Area
The Chain of Infection	Health Science
Geography 101	Geography
Japanese Women as Agents of Change	Sociology
The Myth of Democracy	History
Wellness	Health Science

"I learned a lot about myself. I live in such an isolated area — I have little opportunity to be mentored."

On the negative side, mentees have reported:

"I felt very disconnected from my mentor."
"I wish I had an opportunity to know my mentor before getting down to business."
"I'm not into psycho-babble."

Some mentees have felt very connected to their mentors; others have not. Some mentees have liked the *Mentee-Centered* approach; others have not. Some mentees have felt that it was time well spent; others have not. After reading hundreds of comments, it has become clear that the over-riding characteristic of a successful mentorship has been consistent contact and follow-through by the mentor.

Cost Considerations

VOMP is fully funded by a federal grant; other agencies and institutions desiring to establish a distance mentorship program will need to consider the following expenses:

- Training of mentors (trainer fee, training site fee, materials, equipment, refreshments)
- Mentor costs (mentoring fees, travel to training and periodic meetings, mentor manual, phone charges, postage charges)
- Coordinator (coordinating fee, phone charges, postage charges)
- Stimulus materials (speaker fees, editing of videotapes, copying of videotapes)
- General expenses (postage charges, office supplies, duplicating, Internet access, RID CMP and ACET CEU processing fees)

Looking to the Future

VOMP is a work in progress. VOMP staff members are constantly seeking ways to improve the program and to incorporate innovative technology. At the VOMP mentor training held in January 2000, mentors were provided with a larger collection of tools to use while mentoring. Part of the seminar, entitled "Tools of the Trade," involved a "share shop" where participants shared articles, books, videotapes, or other materials used successfully when mentoring and training interpreters.

Additionally, though the program still holds fast to the *Mentee-Centered* philosophy of mentoring, it is understood that there are times when a mentee and mentor choose to deviate from that philosophy and use a more traditional approach to mentoring. By far, the greatest lesson learned is that it is necessary to be flexible.

In November of 1999, Leilani Johnson, the director of the Educational Interpreting Certificate Program (EICP) at Front Range Community College in Westminster, Colorado, met with VOMP staff. The EICP is a certificate program for K-12 interpreters utilizing distance technology in a large portion of its instruction. As a result of those meetings, new technologies will be incorporated into VOMP in future phases. The technologies include:

- Cameras attached to PCs allowing conversants to see, as well as to hear, each other in "real time"
- Individual voicemail boxes allowing mentors and mentees to dial in to an 800 number to input and receive messages
- Video clips imported into e-mail
- VOMP program description, application, and ancillary information made available on the WROCC website

Conclusion

It is hoped that the reader now has a greater understanding of what is involved when setting up and conducting a distance mentorship program. Distance mentoring can be done successfully and serves a great need within the interpreting profession. The handouts distributed at this presentation are available upon request by contacting the presenters at California State University, Northridge or by e-mailing Catherine Tabor, at CATabor@aol.com.

References

Gish, S. (1987). "I understood all the words, but I missed the point": A goal-to-detail/detail-to-goal strategy for text analysis. In M. McIntire (Ed.), *New dimensions in interpreter education - curriculum and instruction*. Silver Spring, MD: RID Publications.

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Regional Interpreter Training Consortium Region IX. (1994a). *Mentorship program reference manual*. Northridge, CA: RITC Region IX.

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Appendix A

Video Outreach Mentorship Program – Sample Timeline

May 2000

Week of:		Mon Tues Wed Thurs Fri Sat Sun
May 1 - 7	•	**5/1/00** Mentee receives VOMP packet (manual, mentor bio & contact information, introductory videotape, log forms, CEU info, evaluation forms).
	•	Mentee is notified that mentor will contact mentee in about 2 weeks.
May 8 - 14	•	Mentee completes and returns CEU paperwork by stated deadline (if applicable).
	•	Mentee completes readings in mentee manual and awaits contact #1 from mentor.
May 15 - 21	•	**5/15/00** ***Mentor/mentee contact #1*** - Mentor and mentee discuss stimulus materials, prep for interpreting sample.
	•	Mentee selects stimulus lectures and sends order form to VOMP office.
	•	Mentor and mentee set appointment for contact #2.
May 22 - 28 May 29 - 31	•	(For the next three weeks, the mentee researches the topics of the lectures selected for the interpreting sample. During this time the mentee may have additional contacts with the mentor.)

June 2000

Week of:		Mon Tues Wed Thurs Fri Sat Sun
June 1 - 4		
June 5 - 11	•	**6/8/00** ***Mentor/mentee contact #2*** - Mentor/mentee continue to work on predicting vocabulary and content of stimulus tapes.
	•	VOMP Office sends stimulus tapes and videotaping instructions to mentee.
June 12 - 18	•	Mentee uses this time period to prepare the interpreting sample.

June 19 - 25 • Mentee uses this time period, if necessary, to prepare the interpreting sample.

June 26 - 30 • **6/29/00** Deadline for completion of interpreting sample and for mailing the tape to the VOMP office for duplication.

July 2000

Week of: Mon Tues Wed Thurs Fri Sat Sun

July 1 - 2 • Mentee's interpreting sample tape en route to the VOMP office.

July 3 - 9 • **7/7/00** VOMP office receives mentee's interpreting sample, copies it, and mails a copy to both mentor and mentee.

July 10 - 16 • Mentee's interpreting sample en route to mentor and mentee.

July 17 - 23 • **7/21-8/7/00** Mentor receives interpreting sample, views it and makes notes.
• Mentee receives copy of interpreting sample and makes notes on areas to discuss with mentor.

July 24 - 31

August 2000

Week of: Mon Tues Wed Thurs Fri Sat Sun

August 1-6

August 7 - 13 • **8/7/00 *Mentor/mentee contact #3*** -Mentor contacts mentee to discuss the mentee's interpreting sample. This will be a lengthy discussion, completed in more than one session. Both mentor and mentee may be seated near a TV with mentee's tape in each VCR in order to allow for referencing of specific points on the tape. This discussion should be done via phone or online chat.
• Mentor/mentee set appointment for next contact (approximately one week in the future).

August 14 - 20 • **8/14/00 *Mentor/mentee contact #4*** - Mentor and mentee complete discussion of mentee's interpreting sample. Mentor/mentee set date for wrap-up appointment.

August 21 - 27 • **8/21/00 *Mentor/mentee contact #5*** - Mentor and mentee have wrap-up phone call, discuss goals accomplished, identify possible future goals for mentee, etc.

August 27 - 31 • Mentee returns videos, log form, and evaluation form to VOMP office. Mentee keeps his/her interpreting sample video and mentee manual.

Appendix B

OFFICE USE ONLY
REC'D _____
A___R___ WL#____
CK REC'D_____

Western Region Outreach Center & Consortia
Video Outreach Mentorship Program
Mentee Application
National Center on Deafness
California State University, Northridge
Chisholm Hall
18111 Nordhoff Street
Northridge, CA 91330-8267

Name of Postsecondary Institution _____

Name_____
Last First Middle Initial

Address_____
Street/P.O. Box City State Zip

Phone: Home ( )_____ Work ( )_____
Pager ( )_____ FAX ( )_____

E-mail address:_____

Best time to call me is:_____

Educational Background: Please list all postsecondary educational study (i.e., vocational training, community college programs, four-year degree programs, and advanced degree programs).

Institution Name	Degree Obtained	Year Obtained	Major

Certification(s): If you are certified, please list the certifying body (RID, NAD, etc.), which certification(s) you possess (For example: CI, CT, NAD Level I - V, State QA & level, etc.), and the year(s) obtained.

_____

Continuing Education Units (CEUs):

If admitted to the Program, do you wish to obtain CEUs through RID's Certification Maintenance Program? ___yes ___no (Note: You must be a member of RID and currently certified by RID to obtain CMP CEUs.)

If admitted to the Program, do you wish to obtain CEUs through RID's ACET Program? ___yes ___no (Note: You must be a member of RID and currently enrolled in the ACET program to receive ACET CEUs.)

Application - Pg. 2

Liaison: Each mentee must find someone willing to serve as the liaison between the postsecondary institution where he/she works and the VOMP office. The liaison is usually the interpreter coordinator. Please provide the name and contact information of your liaison.

Name Title Phone number V/TTY/Both

Mailing address E-mail address

Interpreting Experience: Please list the settings in which you have worked (i.e., legal, medical, K-12 educational, postsecondary educational, vocational, religious, rehabilitation/employment, mental health, performing arts, deaf-blind, oral, etc.) and the number of years you have worked in each setting:

Deaf Community Experience: Briefly describe your involvement with the Deaf community.

Briefly explain why you would like to participate in the Video Outreach Mentorship Program.

I understand that if I am selected to participate in the Video Outreach Mentorship Program, I am responsible for paying my portion of the participation fee prior to beginning the mentorship. I further understand that I will be required to obtain an E-mail address prior to beginning the mentorship. I verify that I have at my disposal a video camera with microphone, a VCR, and a monitor. I am aware that I will be required to complete outside readings and assignments over the course of the mentorship and I certify that I am able to allot the time necessary to complete the mentorship-related tasks.

Signature Date

Thank you!

This form was adapted from: Regional Interpreter Training Consortium Region IX. (1994b).

Appendix C

Mentee Manual – Table of Contents

- Introduction
  - Clark, T.S. (1994). Mentoring – An Historical Overview. In RITC Region IX (Ed.), Mentorship: a sign of the times. A guide to mentoring in the field of sign language interpretation. Northridge, CA: RITC Region IX.
  - Witter-Merithew, A. (1986). Claiming our destiny, part I. RID Views, October 1986. Silver Spring, MD.: RID Publications.
  - Witter-Merithew, A. (1986). Claiming our destiny, part II. RID Views, November 1986. Silver Spring, MD.: RID Publications.
  - Vidrine, J. (1984). An historical overview of interpreter training programs. In RID, Inc. (Ed.), New dialogues in interpreter education: proceedings of the fourth national conference of interpreter trainers convention, Silver Spring, MD: RID Publications.
- Forms
  - Mentorship Log Form
  - Mentorship Evaluation Form (See Appendix D)
  - Readings
  - Gish, S. (1996). The interpreting process: introduction and skills practice. In Minnesota Registry of Interpreters for the Deaf (Eds.), Self-paced modules for educational interpreter skill development (pp. P-52-P-77). Minnesota: MRID.
  - Gish, S. (1990). Ethics and decision making for interpreters in health care settings – a student manual. Minneapolis, MN: College of St. Catherine, St. Mary's Campus.
- VOMP Timeline
  - See Appendix B

Appendix D Evaluation for Mentee

Your name (optional)_____

This evaluation is designed to help us to improve our program in the future. Please take a few minutes to complete this form and return it to the VOMP Coordinator at the close of the mentorship. Your comments and feedback as a VOMP participant are greatly appreciated.
Rate the following using a scale of 1 to 5 or N/A - not applicable: 5=very satisfactory, 4=satisfactory, 3=fair, 2=unsatisfactory, 1=very unsatisfactory.

Program Procedures

1. Clarity of instructions in mentee mailings and Mentee Manual .....5 4 3 2 1 N/A

2. Usefulness of forms in Mentee Manual.....5 4 3 2 1 N/A

3. Usefulness of readings in Mentee Manual.....5 4 3 2 1 N/A

Mentor-Related Comments

4. Dependability of mentor in following through on scheduled contacts (phone appointments, e-mail, etc.) .....5 4 3 2 1 N/A

5. Flexibility of mentor in responding to/adjusting to your needs and requests over the course of the mentorship.....5 4 3 2 1 N/A

6. Comments/feedback from mentor were helpful/constructive.....5 4 3 2 1 N/A

7. Feel that I am more equipped to direct my own professional development as a result of participating in VOMP.....5 4 3 2 1 N/A

Program Effectiveness/Design

8. Although program structure utilized distance format, ability to have regular contact with mentor.....5 4 3 2 1 N/A

9. Effectiveness of assigned tasks on professional development.....5 4 3 2 1 N/A

10. Adequate time to prepare for making interpreting sample.....5 4 3 2 1 N/A

11. Overall satisfaction with format of program.....5 4 3 2 1 N/A

12. Length of time of mentorship (4 months) was ___too short ___too long ____about right. If you answered "too short" or "too long," how long do you suggest that the mentorship last?_____

13. The most effective communication mode between my mentor and I was (e.g., phone, e-mail, videotape, etc.)_____.
Why?_____

14. If given the opportunity, would you participate as a VOMP mentee again?
___yes ___no. Why or why not?_____
_____

Evaluation Form - Pg. 2

VOMP Procedures/Program Administration

15. Ability to contact VOMP Coordinator with needs.....5 4 3 2 1 N/A

16. Adequate assistance in resolving problems.....5 4 3 2 1 N/A

17. Ability to locate and use suggested resources over the course of the mentorship..5 4 3 2 1 N/A

18. Timeliness in receiving needed materials from the VOMP Office.....5 4 3 2 1 N/A

Additional Comments

19. Which component of the mentorship was least beneficial (if any)?_____

_____

20. Which component of the mentorship was most beneficial? _____

_____

_____

21. If I were in charge of the Video Outreach Mentorship Program I would_ _____

_____

_____

_____

22. General comments (if any)

_____

_____

_____

_____

_____

_____

_____

Thank you for taking the time to complete this evaluation!

This form was adapted from: Regional Interpreter Training Consortium Region IX. (1994b), and the Arizona State University Mentor Program Evaluation Form.

Choosing Effective FM Technology Solutions for Students who are Hard of Hearing

Becky Morris
President, Effective Communication Solutions, Inc.
Independence, KY

Abstract

Disabled student service providers and vocational rehabilitation counselors are on the 'front line' addressing the needs of individuals who are hard of hearing. You are the professionals who need to understand the communication obstacles and introduce technical solutions and other support services to students who are hard of hearing. It often falls on you to also train and counsel individuals on the use of these services and technology.

Understanding the relationship between hearing instrument options and FM system options can mean the difference between successful communications and unnecessary hardship for the hard of hearing student. This workshop will help you understand this critical relationship and enable you to more confidently choose effective FM technology.

Introduction

I'd like to begin with a brief introduction. I am not a vocational rehabilitation counselor, although I work extensively in that arena. I am not an audiologist, even though I talk about hearing instruments. I am an ALD (assistive listening device) specialist. My experience and focus is meeting the needs of individuals who are hard of hearing, people who rely on their residual hearing, and who do not know sign language and who probably wear hearing aids. I support vocational rehabilitation professionals and audiologists with technical expertise in using ALDs to meet the needs of individuals who are hard of hearing. Excellent technical resources are available that discuss FM systems and listening options. Those of us who love details get excited when we find these highly technical and thorough references. My purpose today, however, is to take that information and present it in a practical format so that anyone, regardless of their technical experience level, can leave this workshop feeling they can more competently support this technology.

After polling the audience for technology comfort levels, I see the experiences range from novice to knowledgeable. This diversity often makes it difficult to meet everyone's needs when discussing technical issues. It is my experience to have everyone 'read the menu', start with an appetizer, and then get to the 'meat and potatoes' that the more experienced folks crave.

When discussing FM systems, it's wise to remember that one size does not fit all. You can't purchase one system with a single option and expect it to meet everyone's needs. There are three groups of individuals who can benefit from assistive listening systems: people with hearing loss who do wear hearing aids, people with hearing loss who don't wear hearing aids and people with central auditory processing disorders. The method of interfacing with the assistive listening system determines how effective that system will be for each individual.

You cannot successfully choose technology without considering four key environmental issues and the strategies for recognizing them:

Environmental Strategies—recognize unfavorable listening situations in the classroom:

1. Room acoustics (large hall, open windows, air conditioners and outside noise) can make it more difficult to hear clearly in the classroom.
2. Seating (distance from the speaker, seating arrangements) can cause difficulty for a student with hearing loss.
3. Teaching style (lecture, class discussion, group discussions) can adversely affect one's ability to hear clearly.
4. Use of audio-visuals, while an excellent tool, can cause difficulty if the speaker tries to speak above the hum of the a/v equipment or with the room darkened.

Communication Strategies can also affect successful use of technology:

1. Face the audience and keep things away from your mouth.
2. Don't speak while looking down or with your back turned, and don't roam the room while speaking.
3. Repeat questions from the class before answering them.
4. Don't publicly draw attention to the person using the technology; devise inconspicuous hand signals prior to class to communicate about the technology.

Just how does an assistive listening system help?

ALDs produce a favorable speech-to-noise ratio by placing the microphone near the desired sound source. They overcome reverberation and background noise in acoustically unfriendly rooms and add amplification of the sound source when needed. An assistive listening system consists of two units. One unit has a microphone clipped to the lapel of the instructor (the transmitter). It transmits the sound signal to the other unit (the receiver) that is worn by the student. The receiver converts the signal back to sound that is delivered to the ear with a listening option.

This system can transmit the sound signal three ways. We are only addressing one system, FM systems, throughout this workshop because these are most prevalent. The FM system uses a radio frequency to transmit sound from the transmitter to the receiver. These frequencies are different for each ALD manufacturer.

FM System Listening Options

There are five basic FM system listening options (or interfaces).

- **Headphones**—standard headphones that fit over the head (and don't appeal to many students).
- **Ear hook**—basically half a headphone that fits over one ear with an adjustable hook. It is more appealing because it is more discreet.
- **Neckloop**—this wire loop fits over the neck and creates a special signal that a hearing aid telecoil can pick up. It allows the hearing aid to use its full power.
- **Direct audio input**—connects the hearing aid directly to the FM system.
- **Earbud**—this single earbud fits snugly in the ear, in place of a hearing aid.

Hearing Instruments

Hearing instruments come in three basic styles. A hearing aid consists of a microphone that picks up all sounds, the circuitry that takes that acoustic sound and amplifies it at the levels necessary for that individual, and the style of aid that gets the sound into the ear. Our goal should be to maximize the use of the hearing instrument by interfacing it most effectively with an FM system.

- **CICs**—the very smallest instruments that fit completely-in-the-canal and are virtually invisible.
- **ITEs**—instruments that fit in the ear; the largest fill the bowl of the ear.
- **BTEs**—instruments with an ear mold that fits in the ear and is attached to the aid that is behind the ear.

Hearing Instrument Options

Generally, ITE and BTE aids have options available that allow them to interface with an FM system. The telecoil is often a misunderstood option. The benefit of the telecoil is to turn off the hearing aid's microphone in listening situations where the aid does not perform optimally and pick up sound in a different way. Here is my basic definition of a telecoil:

A telecoil is a special circuit in the hearing aid that allows it to pick up sound differently than the microphone. Typically, you turn off the hearing aid microphone to turn on this special circuit. When you turn the telecoil on (also called t-switch or telephone switch), it is looking for a special electromagnetic signal. This signal will come through many telephone handsets and through the neckloop option of an FM system. It then converts the signal back to sound. This telecoil often is not as strong as the hearing aid microphone and users need to turn the volume control up in order to hear sound at the same level they perceive sound through the microphone.

Telecoils are not made alike, and there is an excellent article that discusses telecoils in great technical detail listed in the references.

Another hearing aid option is direct audio input or DAI. Direct audio input lets the hearing aid microphone remain on while also directly connecting the hearing aid to the sound source. This allows a more distortion free sound signal and is very beneficial for people with severe hearing loss or those in computer classes. There is a special boot that snaps onto the bottom of BTE hearing aids and connects a cord from the hearing aid to the FM receiver.

Putting the pieces together

We've discussed FM systems and FM listening options. We've also discussed hearing aids and hearing aid options. Now it is time to revisit each FM listening option and discuss how best to interface it with the hearing aid.

Headphones are for mild to moderate hearing loss. They can be used with no hearing aids, CIC hearing aids and some ITE or BTE aids that do not have telecoils. They may cause feedback (or squealing) to occur at higher volume levels as well as sound leakage. This sound leakage can cause distraction to others sitting around the individual, so you should monitor this during the system test. This option presents sound binaurally (to both ears).

Ear hooks are also for mild to moderate loss. They can be used with no hearing aids, CICs, most ITEs, and BTEs that do not have telecoils. They may also cause feedback and sound leakage at high volume levels which can cause distraction to others. This option presents sound monaurally which may not be comfortable to some people. The ear hook is sometimes effective because it does not set snugly on the hearing aid and the possibility of feedback is lessened. It allows sound to go to one ear while leaving the opposite ear open to environmental sounds with the hearing aid microphone turned on.

Neckloops are for moderate to severe hearing loss. They can only be used with ITE or BTE hearing aids with the telecoil option. This is effective for people with more severe hearing loss because it bypasses the hearing aid microphone, eliminating the possibility of feedback and sound leakage. It allows for binaural listening and the full power of the hearing aid. Silhouettes are another option and fit behind the ear to bring that electromagnetic signal even closer to the hearing aid's telecoil. These two options use induction to transmit the sound from the receiver to the telecoil.

Direct Audio Input is for severe to profound loss. The boot and cord snaps onto the BTE hearing aid and plugs directly into the FM system. It provides a direct connection and allows the hearing aid microphone to remain on (to pick up environmental sounds) while also picking up the FM system signal. The FM signal will come in at the same level as the hearing aid microphone to give you the benefit of both signals. Another option similar to DAI is a cochlear connector cord that runs from a cochlear implant user's speech processor to the FM receiver.

Earbuds are used in place of a hearing instrument. If an individual's hearing aid has feedback and no other option is available to effectively interface with the system, then the earbud is an effective option. Sound goes directly into the ear, usually without sound leakage, with a snug fit. The drawback to this option is that we are unable to maximize the benefit of the hearing aid.

Conclusion

You should now have a grasp of the terminology of hearing instruments and assistive listening system options. You have seen hearing instruments up close with the visual display board that was

passed around the room. You are now in a position to look at product information and understand how it works.

I'd like to summarize with a few thoughts about protecting and maximizing your investment in assistive listening systems. When I work with disability service providers, I request details of all the systems owned by the school. This information helps me recommend how to use your systems most effectively and build in flexibility. I've shared a copy of this form with you because you will find it helpful in managing your inventory and documenting system maintenance.

In closing, I want to stress that a basic understanding of how this technology works is all you need to enable you to competently support your students. You don't have to become a technical expert. You only need to know enough to talk with those experts. I invite you to add me to your list of resources anytime you have technical questions. You can also call the manufacturer directly with any questions you have. You also have excellent resources available to increase your technical understanding.

Web-Based Distance Learning for Professionals in Postsecondary Education: Orientation to Serving College Students who are Deaf or Hard of Hearing

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St. Paul Technical College

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Abstract

The Postsecondary Education Programs Network (PEPNet) offers interactive multimedia web-based training on the PEPNet web site at HtmlResAnchor www.pepnet.org. The training, entitled *Orientation to Serving College Students Who are Deaf or Hard of Hearing*, is designed for postsecondary education professionals who are serving students who are deaf or hard of hearing. The instructional goal of the project is to provide postsecondary administrators, faculty, and staff with a basic understanding of hearing loss and its implications for communication and learning in a postsecondary setting. PEPNet is the national collaboration of the four Regional Postsecondary Education Centers for Individuals who are Deaf and Hard of Hearing. The Centers are supported by contracts with the U.S. Department of Education, Office of Special Education and Rehabilitative Services. The goal of PEPNet is to assist postsecondary institutions across the nation to attract and effectively serve individuals who are Deaf and Hard of Hearing.

Introduction

The Postsecondary Education Programs Network (PEPNet) now offers one hour of multimedia web-based training on the PEPNet web site at HtmlResAnchor www.pepnet.org. The training, entitled *Orientation to Serving College Students Who are Deaf or Hard of Hearing*, is designed for postsecondary education professionals who are serving students who are deaf or hard of hearing. Others who may benefit from completion of the training include prospective employers of deaf and hard of hearing students and beginning students preparing for careers in deaf education, audiology, communication disorders, rehabilitation, or sign language interpreting. The training is offered at no charge, and individuals who complete the training may download and print an official certificate of completion issued by PEPNet.

Instructional Goal

The instructional goal of the project is to provide postsecondary administrators, faculty, and staff with a basic understanding of hearing loss and its implications for communication and learning in a postsecondary setting. Upon completion of the course individuals will be able to:

- define basic terms and concepts related to deafness and hearing loss,
- explain how deafness and hearing loss influence people's life experiences,

- identify languages and communication strategies used by people who are deaf and hard of hearing.
- apply skills for communicating with students who are deaf or hard of hearing.
- describe the services available for students who are deaf and hard of hearing and,
- adapt instruction to accommodate the needs of students who are deaf and hard of hearing.

PEPNet

PEPNet is the national collaboration of the four Regional Postsecondary Education Centers for Individuals who are Deaf and Hard of Hearing. The Centers are supported by contracts with the U.S. Department of Education, Office of Special Education and Rehabilitative Services. The goal of PEPNet is to assist postsecondary institutions across the nation to attract and effectively serve individuals who are Deaf and Hard of Hearing. The training was developed with collaborative participation of a team of content experts from each of the four Centers:

- Debra Wilcox Hsu, Dissemination Coordinator (team leader) and David Buchkoski, Training Coordinator, Midwest Center for Postsecondary Outreach (MCPO) at St. Paul Technical College, St. Paul, Minnesota
- Charley Tiggs, Project Field Specialist, Northeast Region is served by the Northeast Technical Assistance Center (NETAC), located at the Rochester Institute of Technology in Rochester, New York.
- Marcia Kolvitz, Associate Director, Postsecondary Education Consortium (PEC) located at the University of Tennessee at Knoxville
- Allisun Kale, In-Service Training Specialist and Gary Sanderson, Outreach Program Coordinator, Western Region Outreach Center and Consortia (WROCC) located at the National Center on Deafness at California State University, Northridge.

The PEPNet content expert team contracted with Seward Leaarning Systems, Inc., in Minneapolis, Minnesota, for the design, development and programming of the web-based training. The training module was available on line within six months of the inception of the project. Team members worked together during those months through one face-to-face meeting and many telephone conference calls and chat meetings.

Role of Web-based Distance Learning

The four Regional Postsecondary Education Centers for Individuals who are Deaf and Hard of Hearing were created to ensure that every postsecondary institution in the United States could easily access the technical assistance and outreach services that the Centers provide. The Centers serve over 10,000 colleges, universities, proprietary schools, and community based rehabilitation centers throughout the United States. Multimedia web based distance learning is an ideal training and dissemination tool for organizations like PEPNet which provide outreach and training under the following conditions:

- Large populations - PEPNet serves over 10,000 postsecondary institutions.
- Geographically dispersed - PEPNet serves postsecondary institutions in rural and urban areas in every state and territory of the United States
- Continuous stream of trainees - PEPNet serves a continuous stream of professionals in postsecondary institutions.
- Learners at various levels - PEPNet serves professionals with varying levels of experience and knowledge about working with students who are deaf or hard of hearing.
- Stable content style and scope - *Orientation to Serving College Students who are Deaf or Hard of Hearing* content is stable and universally needed to effectively serve students.
- Accountability is required - PEPNet is

accountable to the U.S. Department of Education to provide training to professionals in postsecondary education and to document the training. Interactive web-based delivery of PEPNet training will allow for electronic tracking of completed training and automated credentialing of training for professionals in postsecondary education.

In addition to the collaborative web site and multimedia web-based training, PEPNet offers an on-line Resource Center on the PEPNet web site with thousands of listings of resources related to deafness and hearing loss. For more information about the PEPNet services or to participate in the on-line training, visit the PEPNet web site at <www.pepnet.org> or contact Debra Wilcox Hsu at 651-221-1432 or dwilcox@stp.tec.mn.us.

Section VI
Student Preparation for College

Skill Building Innovations to Help Today's Students Become Tomorrow's Employees[1]

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Abstract

This paper is focused on skill building resources designed to help deaf and hard of hearing persons obtain the skills needed to enter and succeed at work. The paper overviews innovative materials related to job interviewing and obtaining job accommodations. These materials are based upon research conducted at the University of Arkansas Rehabilitation Research and Training Center for Persons who are Deaf or Hard of Hearing (RT-31). For additional information regarding these resources and related activities of the RT-31, readers are encouraged to contact the authors.

Most persons can benefit from focused resources designed to help them succeed in different stages of the employability process -- career preparation, job entry and placement, and job maintenance and advancement. The University of Arkansas Rehabilitation Research and Training Center for Persons who are Deaf or Hard of Hearing, funded by the National Institute on Disability and Rehabilitation Research, has conducted twenty years of applied research into the employment enhancement needs of persons who are deaf or hard of hearing. This paper focuses on skill building resources designed to help deaf and hard of hearing persons obtain the skills needed to enter and succeed at work. The paper overviews innovative materials related to job interviewing and obtaining job accommodations. Each of these areas are of significant concern to persons who are deaf or hard of hearing and their service providers.

The Job Interview

The job interview is a primary strategy used by virtually all employers as a mechanism to collect information critical to hiring decisions. In the interview, applicants are asked to provide information that confirms or expands the employers knowledge of the applicant and his or her job qualifications. The key to interview success is clear communication -- understanding the interviewer's questions and expectations and marketing your skills and qualifications for the job.

Learning to interview is a concern of all job applicants. Every job seeker could benefit from learning how to succeed in the interview. The interview process is especially challenging for job seekers who are hard of hearing or late deafened. Persons who experience hearing loss early in life can, like individuals without hearing loss, benefit from learning the skills necessary for successful interviewing. Similarly, those who experience hearing loss later in life often face changing jobs. Many have never interviewed as a person with

[1]The research leading to this publication was conducted by faculty of the University of Arkansas Research and Training Center for Persons who are Deaf or Hard of Hearing, which is funded by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education. The opinions contained in this publication are those of the authors and do not necessarily reflect those of the University of Arkansas or the U.S. Department of Education.

hearing loss, and thus, face additional challenges and can benefit from relearning these skills.

Recognizing these concerns, we have conducted a number of studies to identify needs, develop materials or resources directed toward these needs, and then validate the usefulness of these materials in producing enhanced employment outcomes. The database underlying this resource has included late deafened and hard of hearing consumers as well as programs that provide employment related services to these individuals. Over 800 persons were involved in these studies.

The data clearly indicated that consumers needed assistance in learning how to succeed in the interview. For example, when asked to rate the impact of hearing loss in interviews, consumers indicated that hearing loss had moderate impact and made it difficult to demonstrate and market onself. This impact was felt across all aspects of the interview, from the initial phone or face to face contact with the company until the end of the interview and requesting follow-up. Each step of the interview process was moderately difficult due to the impact of hearing loss. Consumers wanted assistance or resources to learn how to present themselves in the interview (Boone, Scherich, & Berkay, 1997). This need was also recognized by service providers. Sadly, other research conducted by our center has found that many programs do not have adequate materials and resources to meet these needs (Boone & Watson, 1999).

GET-IT: An Interview Training Resource for Job Applicants with Hearing Loss

Recognizing these needs, we designed *GET-IT*, a curriculum that focuses on the job interview skills desired by employers as well as the unique problems faced by applicants who are late deafened or hard of hearing. Gaining Employment Through Interview Training was based upon well validated procedures to assist deaf persons to learn interviewing skills developed at our Center. Our goal was to develop materials that are presented in accessible formats. The resulting curriculum includes a Trainers Manual, Consumer Learning Materials, and a 72-minute closed-captioned video that includes narrated guidelines and sample interviews modeled by persons who were late deafened or hard of hearing.

The *GET-IT* curriculum includes nine key lessons that correspond to the structural parts of the typical job interview. These lessons include:

- Orientation to the Interview
- Greeting the Person at the Front Desk
- Meeting the Employer for the First Time
- Answering Questions Confidently
- Asking for Important Information
- Offering Information
- Closing the Interview
- What If You Are Not Asked
- The Complete Interview

In addition to these lessons, the Curriculum includes an assessment instrument designed to help applicants to pinpoint problems and weaknesses as well as extensive appendices of vocabulary and sample responses for interview questions.

Each lesson follows the same format. Initially, a narrator describes the specific skills that are targeted by the lesson. This discussion is followed by examples of persons exhibiting these skills. Subsequently, learners are asked to practice the skills they are observing on the video in roleplays. Finally, homework "application" exercises are described to help learners to apply the skills they have learned. The curriculum may be used individually but is most effective when in small groups. Group members are invaluable in providing feedback on ways to improve interview performance.

Each lesson specifies the exact content needed based upon expectations of the employer. For example, in "Meeting the Employer for the First Time" applicants learn to:

- Greet the Interviewer
- Smile and shake hands
- Thank the Interviewer for meeting
- Request room accommodations
- Make small talk
- Use the Interviewer's name
- Sit quietly
- Make eye contact, and
- Explain your communication needs.

The rationale for each of these skills is clearly described, modeled and practiced to ensure learning. Data indicates that the process is an effective way to learn these skills.

AcCOMModate! Communication Accommodations at Work

Our Center is currently developing an interesting, interactive way to learn about workplace accommodations—a multimedia program called *AcCOMModate! Communication Accommodations at Work*. Past research conducted by our Center found that many workers who had recently experienced hearing loss were unsure about how to identify and request appropriate communication accommodations. Furthermore, surveys of these workers' employers also found an overall lack of knowledge about accommodations.

These two findings resulted in the development of a text-based computer program called *Job Accommodations Curriculum* (Sherich & Berkay, 1995). Workers who were hard of hearing or late-deafened reviewed the program. While the resource was viewed as useful, most of these individuals felt the curriculum could be substantially improved through inclusion of multimedia demonstrations of accommodations, images, graphics, and, where possible, videos of people using various accommodations. Toward this goal, we successfully applied for and were awarded a knowledge and dissemination grant from the National Institute on Disability and Rehabilitation Research.

Thus, the *AcCOMModate* resource is being developed. This program can be used on either MAC or PC platforms, and we believe it will be useful to a number of audiences. Service providers will be able to use it with consumers they serve and to educate employers. Consumers themselves can use it as a self-help program. Employers may use it to educate other employees. Postsecondary institutions may find it useful for both new students and those about to graduate and join the workforce. Users can work through one or all of the sections included in the program.

AcCOMModate has been set up with a teleconference format - a setting we hope will be familiar to most users. In the Introduction, the "agenda" topics for the teleconference are described. Topics include:

1. What is an Accommodation?
2. Identifying Accommodation Needs (8 Situations)
3. Choosing An Accommodation
4. Marketing Your Request

This section also provides a brief overview of how to use the program with more in-depth explanations in the help section. To begin the curriculum, users simply click on the topic where they wish to begin.

Throughout the program, users will notice that everything spoken is captioned. To the right of the captioning are two control arrows for scrolling the text forward and backward. When the text is scrolled manually, the video portion is also reset.

Topic 1, *What is an Accommodation?*, introduces users to definitions of accommodations and their benefits. Four primary categories of accommodations are covered: equipment, support personnel, job restructuring, and workplace modifications. This looks very similar to most teleconferences—there are actually participants shown seated in the first row. From time to time, these individuals will be making comments or posing questions.

On the big screen, a moderator, video or other information may be presented. As before, whatever is spoken—whether from the moderator or video which might appear on the big screen, or comments from the other participants—is also captioned. Users have complete control over where they are in the program, and what they want to see happen. The remote control on the right side of the screen indicates which topic is currently being explored, allows access to the other three topics, as well as provides the familiar keys: stop/pause, play, reverse, and fast forward. To the right of the four participants is a computer monitor under the desktop. This computer monitor is utilized in Topic 2, *Identifying Your Accommodation Needs*.

The perspective is as though the program user is accessing the computer under the desktop. Users are provided the opportunity to explore accommodation possibilities for eight categories of workplace situations including: receiving instructions/talking with your supervisor, performance evaluations, department meetings, in-service training, work-related social functions, socializing with co-workers, working with customers or the general public, and alerting devices. Once a situation is chosen, users are led through a series of questions to which they answer yes/no based on their personal perspectives and experiences. These questions are related to a variety of aspects for the chosen situation. Answers to these questions lead to the development of a list of potential

accommodations that may assist the individual. Users may print the lists as they appear or wait until multiple situations have been completed to print a summary list.

The third topic, *Choosing a Preferred Accommodation*, is presented by Maxwell Gadget. Maxwell provides some comic relief for users while providing very useful information. He introduces six steps for individuals to use when choosing appropriate accommodations. These steps help narrow the list of potential accommodations to specific accommodations that best fit the workers' situation.

Marketing Your Request, which is Topic 4, provides guidelines and examples of effective ways to approach employers with an accommodation request. Two types of requests are discussed. The first type is requesting simple accommodations, such as moving to a quieter place or using available assistive technology. The second type is requesting formal accommodations which involves a supervisor or someone else in order to get the accommodation, such as purchasing assistive technology or changing job duties. Several vignettes are included which demonstrate how to put the steps into practice. The last portion of this section also discusses how to deal with denied requests.

This multimedia program also includes a glossary that may be accessed at any time to obtain more information or an explanation of a specific accommodation. Throughout the program, users may see a term or phrase in the captioning which is highlighted in red. By clicking on the highlighted item, the glossary is accessed. Users may peruse the glossary whenever they like and simply pick specific terms from the listing. Along with the text definition, often a graphic or short video is included to help better describe the term or phrase. Many definitions also have related concepts listed enabling users to delve further. The information presented may be printed, or users may return to the previous screen.

Closing

We sincerely hope that these resources provide information in an engaging manner. The *GET-IT* curriculum is currently available. Contact the authors or visit our website for ordering information. We urge you to check our website from time to time to see when the final *AcCOMModate* product is available. The Center's web address is: <www.uark.edu/deafrtc>.

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The Freshman Experience– A Piece of Cake!

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The Freshman Experience class offered at California State University, Northridge, was initially created as a response to an unmet need. Although freshmen were introduced during the University's Orientation to "services" on campus, students often spent years trying to learn how to navigate the "system." They needed an opportunity to explore more deeply the issues that would impact them later (Grade Point Average, General Education requirements, multiculturalism), skills that would serve them well on campus (time management, study habits, library skills), and skills that would serve them well in life (communication, critical reasoning, social interaction, health).

In developing the curriculum for the section of this class which focused on the needs of students who are deaf or hard of hearing, the professors took the position that incoming freshmen would benefit from two other areas as well. One class session allowed a panel of deaf sophomores who were incoming freshmen the year before to relate their experiences of their first year. Another significant session literally "turned the tables" and put the deaf students in the position of serving as an interpreter or captionist so that they might have a better understanding of the services they use.

Based on years of experience and research which indicate that students learn more from "doing" than from lectures, the class was designed to be "hands-on" at all times. Research resulted in the identification of activities to support skills and experiences critical for this course. The course text, *Becoming a Master Student*, by Dave Ellis, is supported by a professor's copy which provides a number of exercises for each topic. Other activities were taken from library, internet, and personal resources. Based on students' evaluations of the class over the past three years, these activities have been effective in getting across critical points and have added to the students' enjoyment of the class. We include in this article the three projects presented at the PEPNet Conference; our Conference handout included all other projects.[1]

In addition to the specific benefits of direct application (skills building), research has demonstrated that this type of "Introduction to College" provides the necessary transition needed to move from high school to college and to succeed. A study conducted at Phillips County Community College in Arkansas found that students who completed a freshman orientation class (experimental group) were twice as likely to remain in school as those who has not taken the course. That study also showed that the mean Grade Point Average at the end of the first semester for the experimental group was 2.28, compared with a 1.72 mean GPA for the control group.

Although research to replicate the results of the Phillips study is still in process, the professors who team-teach this course have found that students who complete the course are more successful in negotiating the changes and demands that are made of them in college. The experiences in the class and the related discussions help students

[1]These activities were included in the handout packet and are available from the presenters at the National Center on Deafness, California State University, Northridge, 18111 Nordhoff Street, Northridge, California 91330.

identify the relationships and processes by which they become (or fail to become) members of the social and academic communities on campus. Since the class is taught in direct communication (sign language), students have the opportunity to interact with peers and have their opinions and feelings validated.

The final exam for the course asks students to "become the instructor" for the next year's class, to select topics they think they would like to keep or drop, and to justify those selections. Their responses in their presentations and their later independence and success are strong defenses for continuing the class.

The Rocks of Our Lives

Time Management
(Taken from the Internet)

A while ago, I was reading about an expert on the subject of time management. One day this expert was speaking to a group of business students and, to drive home a point, used an illustration I'm sure those students will never forget. After I share it with you, you'll never forget it either.

As this man stood in front of the group of high-powered over achievers he said, "Okay, time for a quiz". Then he pulled out a one-gallon, wide-mouthed mason jar and set it on a table in front of him. He produced about a dozen fist-sized rocks and carefully placed them, one at a time, into the jar. When the jar was filled to the top and no more rocks ould fit inside, he asked, "Is this jar full?"

Everyone in the class said, "Yes."

Then he said, "Really?"

He reached under the table and pulled out a bucket of gravel. He dumped some gravel in and shook the jar causing pieces of gravel to work themselves down into the spaces between the big rocks. He smiled and asked the group once more,"Is the jar full"?

By this time the class was onto him. "Probably not," one of them answered.

"Good!" he replied.

He reached under the table and brought out a bucket of sand. He dumped the sand in and it went into all the spaces left between the rocks and the gravel.

Once more he asked the question, "Is this jar full?"

"No!" the class shouted.

Once again he said, "Good!" Then he grabbed a pitcher of water and began to pour it in until the jar was filled to the brim.

He looked up at the class and asked, "What is the point of this illustration?"

One eager beaver raised his hand and said, "The point is, no matter how full your schedule is, if you try really hard, you can always fit some more things into it!"

"No," the speaker replied, "that's not the point. What this illustration teaches us is that: If you don't put the big rocks in first, you'll never get them in at all."

What are the 'big rocks' in your life?
- Time with your loved ones?
- Your faith, your education, your finances?
- A cause?
- Teaching or mentoring others?
- A project that YOU want to accomplish?

Remember to put these BIG ROCKS in first, or you'll never get them in at all. So, tonight or in the morning when you are reflecting on this short story, ask yourself this question: What are the 'big rocks' in my life? Then, put those in your jar first!

Hats

Stereotyping & Prejudice
(An activity from *Becoming a Master Student*)

Janie Perez of the University of Texas in Galveston uses the following exercise to demonstrate the impact of prejudice and stereotyped expectations on behavior. It requires the use of ten headbands or hats with one of the following messages printed on each one.

- Clown: Laugh at me
- Stupid: Criticize me
- Senile: Patronize me
- Helpless: Interrupt me
- Insignificant: Ignore me
- Expert: Ask my opinion
- Important person: Listen to me
- Powerful person: Agree with me
- Genius: Ask me to speak
- Attractive person: Play up to me

Ask ten volunteers to sit in a circle in the center of the room. Ask the rest of the class to observe closely, remain silent, and focus on the reactions and comments of the volunteers.

Place one headband or hat on each volunteer so that the volunteer cannot read his own, but the rest of the group can see what it says. Introduce a topic for discussion and instruct each volunteer to interact with the others in a natural way. Further instruct the volunteers to react to each person who speaks by following the instructions on the speaker's headband. Emphasize that volunteers are not to tell each other what the headbands say but simply to act consistent with them. Begin the discussion and let it continue for 15 to 20 minutes until everyone has participated. Then stop the discussion and ask each volunteer to guess what their own headband says, and then take it off and read it.

Discussion: Begin the follow-up discussion by asking the volunteers to share their reactions. What is it like to be consistently misinterpreted by the group? Did you find yourself changing your behavior in reaction to others' treatment of you? Ask the observers to join the discussion with what they noticed about changes in body language and attitude among the volunteers.

If you are interested in soliciting written feedback, ask students to write about a time when they related to a person as a "headband" instead of as an individual. Questions could include: What assumptions did you make about that person? How do you imagine that person after they have completed their writing assignment?

Sponges — Our Brains!

Study habits & Time Management
(An activity from *Becoming a Master Student*)

This exercise requires the following supplies:

- 3 glasses with equal amounts of water in each
- 3 large sponges that have been saturated, and then dried until they are hard
- 3 plates
- 3 bowls

Prepare 3 sets of implements on a table in front of the class. Each set should include a glass filled with water, a hard, dried sponge, one plate and one bowl.

Begin by explaining that each of the sponges represents your brain. If possible, let three students volunteer to have the sponges represent their brains.

Start with Johnny's brain. Johnny is away from home for the first time. He is excited about living in the dorm and meeting new friends. Although he knows school is important, his first semester has been less than ideal in terms of commitment to academics. The first week he went to classes and kept up with his studies. By the second week he had discovered the beach. The third week he pledged for a fraternity and found that those fraternity brothers sure knew how to have a good time! He was dismayed when midterm time came around and he didn't do well, but he had difficulty getting motivated. A couple of his friends went snowboarding later in the semester and he didn't want to miss that trip! The week before final exams, however, he decided that he'd better buckle down. He hadn't reviewed any of his notes, he hadn't done any of the reading, and hadn't paid attention to what the professor had emphasized in class. So the week of finals he really had to cram and try to pour that whole semester into one week.

Hold the first sponge (Johnny's brain) over the bowl. Explain that you will count down the weeks of the semester-and for every week that Johnny DID study, one-fifteenth of the water from the glass (information) will be poured over the sponge. Although little is used in the first week, pour the remaining portion of the glass over the sponge quickly at the end to represent the cramming for finals. Allow the excess to spill over into the bowl. Then place the sponge on the plate.

Next we have Susie's brain. Susie was a bit more diligent than Johnny. She was on top of her class work for the first three weeks before she started to slack off. She fell in love with Stanley and found it difficult to concentrate on school when he kept inviting her out. She did, however, study for her midterms for one week. Then she lost it again. She and Stanley went up the coast to visit his parents during Spring break and Susie slipped back into her old pattern. As professors began talking about preparations for final exams, Susie panicked and decided she'd better get her act together or her parents would kill her! Three weeks before finals, she organized all her notes, reviewed them, caught up on her reading and studied with friends for finals.

Hold the second sponge (Susie's brain) over the bowl. Count down the weeks of the semester, pouring one-fifteenth of the water each week Susie studied. Pour the remaining over the sponge quickly at the end.

Finally we have Hector. Hector has friends and enjoys activities but has decided that if he is going to become a doctor, he'd better do well from the start. Each week Hector reads the assigned work, takes notes to summarize, and reviews his notes from class. A week or two prior to each exam, he organizes his materials and studies in a way that he can remember the information. He reviews his information repeatedly to ensure that he will do well on his exams, and he does.

Count down the weeks of the semester with Hector's "brain," pouring little by little for each week, including final exams. You should come to the end of the glass by the time you come to the end of the semester week count.

Open discussion with the class to see how they perceive this activity. Let each share examples of when they may have been like Johnny, Susie, or Hector in their school lives. This can lead to more specific activities in time management or study skills.

Vocabulary Improvement for the Deaf and Hard of Hearing with *Meet the Words*

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Abstract

This article comes from a poster presentation of a World Wide Web based vocabulary course developed for students who are deaf or hard of hearing. Web courses present special challenges and well as unique opportunities for learners who are deaf or hard of hearing. This poster presentation focuses on the ways in which one instructor worked through many of the relevant issues.

Vocabulary Improvement for the Deaf and Hard of Hearing with *Meet the Words*

The Resource Center for the Deaf and Hard of Hearing (RCDHH) at Tulsa Community College offers a slate of classroom based courses to assist our students to enhance basic skills. However, we found that a number of our students wanted additional work in vocabulary building even after they had completed RCDHH's three levels of reading and vocabulary classes. In addition, our colleagues in other institutions in Oklahoma reported a similar student demand for vocabulary enrichment. Unfortunately, although most of the institutions, including our own, offer vocabulary courses, many of the courses developed for hearing students do not address the primary concerns of our students. Consequently, we decided to explore the possibility of developing an on-line vocabulary course for these students.

Once RCDHH determined a need for such a class, it fell to me to develop it. However, I did not feel that a course that would simply present and test over a long list of vocabulary words was either necessary or likely to be effective. Instead, I decided to spend some time examining what students have told us about their needs regarding vocabulary development. I found that our students' vocabulary needs tend to fall into three categories. First, they need ways to unlock word meanings without continually resorting to dictionaries (which were not always particularly helpful). Next, they need strategies for finding variations on root words; in other words, they do not always realize that words such as "recognize" and "unrecognizable" are related. Finally, they need a means to determine which form of a word to use in their own writing; in other words, should they use "Jan was sympathy," or "Jan was sympathetic"?

Course Design

The course I came up with, Vocabulary Improvement for the Deaf and Hard of Hearing, was developed to meet these three needs on a level that fills the gaps between vocabulary studies created for use with basal reading texts and those intended for traditional college level vocabulary courses. The vocabulary itself was selected with the needs of the adult learner who is deaf or hard of hearing as the foremost consideration with a focus on expanding vocabulary through building an understanding of

how common affixes alter meaning and usage. The course focuses on word parts and how they work together to form new words and to change the meanings and functions of familiar words.

Vocabulary Improvement consists of an introductory unit and twelve vocabulary units. The introductory unit sets forth quick and simple principles (more properly considered "rules of thumb" rather than a comprehensive grammar) for determining a word's "work" in a sentence. These principles are reviewed and constantly reinforced in the vocabulary units. Each unit except the introductory unit has twelve words divided between two PowerPoint presentations. The presentations are divided in order to allow students to plan their learning sessions more effectively and to avoid stretching the attention span beyond a comfortable limit.

Although the course was originally conceived and developed as an on-line course, I realize that some instructors may prefer to use the curriculum in other ways. As a result, RCDHH decided to make the course materials available on a CD-ROM as well as on-line.

In the initial version, the course was offered by Tulsa Community College using *Learning Space* as the course interface. Subsequently, the College switched to *Blackboard* for most Internet courses, and Vocabulary Improvement was revised for this product. I have not taught thte course since this switch was made, but I anticipate that it will run even more smoothly with Blackboard than it did earlier. *Blackboard* allows students to self-enroll, but those who miss the deadline for payment of tuition and fees are removed from the system. All course materials and assessments are available on-line. A face-to-face orientation is always desirable but not vital, and I do not schedule one unless individual students request it. Assessments are designed to be "open book" to avoid the necessity of on-site testing or proctoring. Some assessments include immediate remedial feedback for incorrect answers. Assessments are graded automatically by *Blackboard*, and the results are available to individual students on-line.

The CD-ROM version can easily be used in either a classroom or a lab. I have used it in both situations myself and found it to work very smoothly. The student computers in the RCDHH lab all have PowerPoint and Word installed, but a PowerPoint Viewer and a Microsoft Word Viewer are available to allow users who do not have the full versions of these programs to use the course materials. A printer should be available to students or lab personnel should print the assessments, lesson outlines, and handouts ahead of time to distribute to students. Assessments for the CD-ROM version of the course are paper and pencil based and must be graded by hand. Answer keys are on the CD-ROM, so the teacher or lab attendant should copy the course to the lab computer's hard-drive minus the answer keys. The remedial feedback is not available for the paper and pencil version of the assessments. Lessons are self-contained and may be used out of sequence.

All of the lessons are formatted in a similar way, so once a student learns the format, he or she should be able work independently. For each lesson, a student first works through the two PowerPoint presentations then proceeds to the assignments. At the beginning of a lesson, students are reminded to print or locate their Practice Sheet. The purpose of the Practice Sheet is to engage the learner as he or she proceeds through the lesson. Next, a major word part is introduced and defined and the first vocabulary word using the word part is introduced. The word is then analyzed by breaking it down into its parts and these parts are identified and defined. The purpose of the analysis is to model and reinforce effective word attack strategies. In addition, learners are exposed to incidental learning of word parts which are used and defined but not featured in the lesson.

After word analysis, the learner is invited to choose one of three possible "estimates" for the word's meaning, using the analysis as the basis for the estimate. Students record their answers on their Practice Sheets. By making an "estimate" of the word's meaning, students engage with the analysis just presented to them and gain experience in using known morphemes to arrive at word meaning. Once the student has recorded his or her estimate on the Practice Sheet, the word's actual definition(s) and part(s) of speech are presented, and the student can compare these with the recorded estimate.

Finally, a sentence example for each definition and/or part of speech is presented. The sentence is shown using the word and then shown again using a synonym or short definition in the place of the word so students can be sure they un-

derstand the sentence. At the end of the presentation, students check the answers they recorded on their Practice Sheets.

After completing the presentations, the students work through a number of assignments. In the on-line version of the course, all the assignments are electronically graded and many have immediate feedback for responses. Each lesson includes a "Working with Definitions" assignment, in which students match words with their definitions and parts of speech. This exercise is simply to assist students with focusing on, understanding and remembering the definitions and parts of speech.

In the next two assignments, students begin to work with the words in sentences. In the "Working with Sentences" and "More Work with Sentences," students select the proper word to complete a sentence. In "Working with Sentences," the part of speech is provided for the student; "More Work with Sentences" is similar but uses new sentences and does not include the support of the part of speech clue. These exercises encourage students to note parts of speech and how they are used in sentences. In the Web-based version of the course, the feedback for incorrect answers reinforces the "job" each part of speech performs in a sentence and helps students make a better informed selection for their second attempt.

Before going on to the next lesson, students take a "check-up," actually a quiz. For the quiz, students select the proper vocabulary word to replace a synonym or short definition of the word used in a sentence.

Graphic Design

With an on-line course, graphic design becomes vital. When a student logs on, what he or she sees on the computer screen comes to represent both the teacher and the institution itself. For that reason alone, a clean, attractive and professional design is important. However, the importance of design can go much deeper, influencing not only student retention, but student success.

For Vocabulary Improvement, I chose the "Fireball" template provided with PowerPoint for several important reasons. First, it uses a dark background, and dark backgrounds have been shown to provide more comfortable reading for some distance learning environments. (My goal was to design for as many environments as possible in case we decided to adapt the course later to another use.) Next, because the template consists of a single graphic on a plain, dark background, I was easily able to vary the template by changing the background color. I wanted overall consistency with a slight variation in order to signal to the student a transition between the course introduction (violet background) and the vocabulary lessons. In addition, odd numbered lessons use black backgrounds while even numbered lessons use royal blue backgrounds. Since each lesson consists of two presentations, students know they have skipped a presentation if the background color changes after only one presentation.

So far I've had the opportunity to use the Vocabulary Improvement curriculum with a small number but wide variety of students, including deaf, hard of hearing and international students. To date, I've been pleased with the results of the course. Students seem to have little or no problem understanding the course format, proceeding through the lessons and making real progress in their vocabulary development. I like to see students using their newly acquired vocabulary in original writing; when I use the curriculum in the classroom or lab, I sometimes add writing assignments. However, such a requirement seems a bit onerous and clumsy in a one hour on-line class, so I have not added it to the distance learning version. In the future, I hope to develop additional units and to add sign language video to the presentations.

Resources for On-line Course Development

Because resources and technology change rapidly, probably the best way to keep up with developments is to search the Internet frequently. The following key words are the ones I have found most useful: curriculum design; distance learning; web design; on-line course; readability.

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Facilitating Self-Determination in Students who are Deaf and Hard of Hearing

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Abstract

Self-determination skills are vital to students in postsecondary settings. Students are expected to advocate for their needs in these settings, something that they may have never had to do for themselves in secondary settings. This paper describes the characteristics of those who are considered to be self-determined, provides insights into the connection between students with disabilities and self-determination skill, and covers tips to help develop these skills in postsecondary settings.

Self-determination is often thought of as knowing what you want and being able to get it. Field and Hoffman (1994) describe it as the ability to define and achieve goals based on a foundation of knowing and valuing oneself. They give examples, such as learning self confidence, defending one's position, problem solving, standing up for oneself, making tough decisions, and, in general, being a causal agent in one's life.

Reiff, Gerber and Ginsberg (1997) point out several positive characteristics of students who are seen as self determined: they understand and accept their disability; they are proactive in their approaches to learning and therefore actively reduce their stress; they are persistent and focused on goals; they make use of support systems; they capitalize on strengths; and they find creative ways to compensate and problem solve. Wehmeyer (1998) lists several requisite skills to self determination, including choice making, problem solving, decision making, goal setting and attainment, risk taking and safety, self regulation, self advocacy or leadership, and interpersonal communication. In order to be self-determined, individuals must be able to demonstrate these skills *and* know when and how to apply them to achieve their goals.

Common to all of these descriptions is the idea that individuals who are self-determined take responsibility for getting their needs met. People often find that when they take the initiative to get their needs met, their problem-solving and decision-making skills increase and their stress is reduced. For those in the workforce or in educational settings, this kind of proactive behavior can be the key to success. In fact, these behaviors are among those identified as the guiding principles in the 1991 report from the Secretary's Commission on Achieving Necessary Skills (SCANS), guidelines that are being adopted in secondary schools across the country.

The Significance of Disability in Relation to Self Determination Skill

The traits described above would benefit all, but can be particularly useful to students with disabilities, especially when it comes to advocating for their accommodation needs in different settings. When students enter postsecondary settings, they have graduated from secondary programs and the support of IDEA, and they are now required by ADA and 504 to advocate for their own needs. If the individual does not request the

accommodation, the school program or employer is not responsible for providing it.

How does a student begin to advocate for her needs? Before any of the above skills can come into play, the student must know and value herself. Flannery, Bigaj, Slovic, & Dalmau (1999) list four major areas that students with disabilities in particular should know about themselves: a) strengths, preferences and learning styles; b) the impact of the disability on their learning; c) the strategies and accommodations that provide them access and success in learning; and d) their rights and responsibilities.

It would behoove all students to be aware of their strengths, preferences, and learning styles, and to know how to take make the most of these traits. Different study strategies are recommended for different learning styles. An on-line test to determine if your learning style is visual, aural, read/write, or kinesthetic is available on the internet at The Active Learning Site <http://www.active-learning-site.com>. Descriptions and study tips are provided for each learning style. Self-knowledge and awareness of the impact one's disability has on one's learning process is vital to choosing a major that is a good match for the student's strengths and weaknesses. Developing a realistic understanding of one's own strengths and limitations is a key to identifying areas where problem-solving skills may be needed.

Knowledge of the impact of the disability is more than simply knowing that one has a hearing loss. Many students are only able to communicate that they are deaf or hard of hearing or that they use (or don't use) sign language. This information alone, though, is not very helpful to others who are trying to engage in communication with the student or in trying to develop appropriate accommodations. A better explanation would involve situation-specific examples that describe the impact of the disability for that situation or setting. For example, in talking with a new dorm roommate, the student would explain that she might not hear the phone ring. On the other hand, music played late at night might not bother her either. If the student were explaining her disability to a professor, she would let her know that she needed to see her face when she talks to her. The student would be able to identify what that person (e.g., friends, family, roommates, faculty, disability staff) needs to know about her disability to interact with her best in that situation. One way to practice this skill is to have the student role play describing her needs to a friend, a child, an instructor, a disability services provider, or an employer so that she can practice changing her description according to the individual.

In order to understand their accommodation needs in different situations, hard of hearing and deaf students must also be knowledgeable about the range of assistive equipment and accommodations, resources, and supports available to them. This means knowing how their hearing aids work, what a telecoil is used for, and how to effectively use assistive listening equipment, interpreters, or even hearing assistance dogs. It is not enough for the student to say that she wants a particular accommodation. The student must be able to state why she prefers one accommodation to another, and to describe why one accommodation will meet her needs better than other accommodations. In addition, students should be open to learning about the pros and cons of each accommodation and evaluate each one in terms of the communication requirements of the specific situation. Being able to communicate this kind of awareness about a variety of accommodations and the benefits or drawbacks of each will greatly enhance the student's success rate in self-advocacy.

In addition to service-oriented accommodations, the student should also become aware of self-accommodations, that is, of the strategies and coping skills she uses in everyday life. Everyone uses a variety of coping skills to make it through various situations. Sometimes we are not even aware of what we do unless someone else points it out to us. Some coping skills work well in some situations and not so well in others. Some worked well when we were younger but are no longer appropriate in a college setting or on the job. The student should strive to identify behaviors she uses in different situations and which ones serve her best. She should then work on replacing behaviors that no longer serve her well with new ones.

In addition to self-awareness, the student should also be on the lookout for behaviors or strategies used by peers that she might use for herself as well. In addition to observing how others handle various situations, she can ask peers what they do in similar situations. If the student is the only student who is deaf or hard of hearing on the campus, she might try joining a group like

SHHH (Self Help for Hard of Hearing Persons) or ALDA (Association for Late Deafened Adults) or an internet group, such as Deaf-L or Beyond-Hearing. These are all great resources for finding out what others have done in similar situations and for how problems were resolved. It will help the student to anticipate consequences and to learn new coping skills. This kind of knowledge can be invaluable in developing a "Plan B" when the original plan does not work, and can save a lot of time and stress.

Finally, students must be aware of both their rights and their responsibilities. This means understanding both the law and procedures for obtaining services through the postsecondary institution, as well as consequences for not following through with the procedures.

Learning New Skills

Building on this foundation of knowing and valuing oneself, self-determination skill building is described in the following a four-step process. First, the student must *develop a plan*. In this planning stage, the student should consider her goals and develop a creative plan to accomplish those goals. She must think about the logistics of the situation and determine what she will need. Needs might revolve around scheduling, equipment, location, and/or conditions of learning. She might walk herself through the plan in order to anticipate the results of her actions.

The next step is to *act* on the plan. This might involve acquiring new skills, collaboration with others, negotiation, being prepared for conflict and criticism, and problem solving. It is a step of risk-taking and being willing to persist until the goal is met.

The final two steps involve *experiencing and evaluating the outcomes*. What worked and why? What did not work and why? Where did the plan fall apart? What could she do differently the next time to be successful? This leads to a greater understanding of her needs in a greater variety of situations, to improved problem solving strategies, and to a larger repertoire of accommodation options.

Students can make great progress in developing self-determination skills through this reflective process, evaluating successes and failures in a variety of situations. Before the student can solve a problem, she must first identify it. For example, the student should consider different situations where there were problems with communication, and other situations where communication was a seamless process. Situations that were very comfortable and situations that were very uncomfortable should also be considered. She would look at each situation and identify why one interaction was successful and the other was not. The student should look for patterns (e.g., difficulty communicating in noisy or group settings) that she will now be able to address proactively.

Teaching New Skills

Much of the instruction developed for self-determination focuses on students in k-12 settings. At the postsecondary level, few curricula exist, even though self-advocacy and self-determination skills are vital to the student's success. At the postsecondary level, service providers may be able to develop workshops for students that focus on developing these skills. In addition to the self-determination elements and skills described above, other specific topics to include are rights and responsibilities, academic accommodations, and strategies to request them effectively.

Service providers should look for ways to incorporate self-determination information into pre-existing programs. They can integrate curriculum into summer bridge programs or into networking groups. Adjusting the environment for both students and staff can be vital to the success of the project. Staff should always be on the lookout for opportunities for self-determination. For example, staff need to be "on the same page" concerning the goals of self-determination. Instead of a staff person making the call for an appointment with a professor or at the Health Center, have the student do it on her own with practice or support, if necessary. Role-playing exercises can be very useful in these situations. With this age group, stress student responsibility, and the goals of independence, career transitions, and preparation. Emphasize learning from peer networks and provide structure for students to meet.

Be sure to support and guide students through this process, providing spontaneous support and feedback. Encourage students to establish goals. Assist students to understand their disability. Actively share feelings, con-

cerns, opinions, and needs with students. You may find it useful to incorporate questioning techniques in this process. Whatever the method used, always reinforce facilitating rather than enabling behaviors. Finally, be on the lookout for the teachable moment.

Resources

PEPNet has many materials available that can help students in their self discovery. Check out the PEPNet Resource Center website under PEPNet products for information on a variety of accommodations, and the pros and cons of each. There are also Tip Sheets available that students can read for their own understanding or that they can pass on to others to help them to understand the student's needs. There are also several videos available to help students in the decision making process about attending college. *College...Now What?* addresses the questions students should be asking themselves about choosing a postsecondary program. *Pah! I'm in College...Now What?* addresses the differences students will face in receiving accommodations in college programs that they may not have faced in their secondary settings. *Look out World-Here I Come!* is the story of a young woman describing her experiences in a mainstream college program and how they differed from her previous residential school background. These materials, and many more, can be found at <http://pepnet.org> under Resource Center.

The Northwest Outreach Center webpage also includes helpful information on understanding the ins and outs of using assistive listening devices (Demystifying Assistive Listening Devices) and how to connect with others through internet e-mail lists (Internet Resources Related to Hearing Loss). These can be found at <http://www.wou.edu/NWOC>.

Finally, don't forget that there are PEPNet trainers available to present on this and a variety of other topics to your program. Contact the PEPNet Regional Center serving your area for more information.

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Two-Way Bilingual Immersion: American Sign Language and English

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Abstract

Two-way bilingual immersion programs are in use all over America. Classes in these programs are conducted in two languages, and students are native speakers of the languages used. This paper outlines a bilingual immersion class in which English and American Sign Language were used. Half of the students were hearing and half were deaf. This two-way class was taught at Camden County College in Blackwood, NJ, in the summer of 1998. Course content included phonological and morphological aspects of American Sign Language and English. Some of the lectures were signed in ASL; some lectures were conducted in written English via a computer network system. The paper discusses two-way programs in America and describes the class content, presentations, challenges, and results of the Camden County College class. Examples of lessons, presentations, and student feedback are included.

History of American Two-Way Programs

Two-way bilingual immersion programs (TWI), sometimes called "develop-mental bilingual programs," "two-way bilingual education," or "dual language education," are a combination of bilingual programs and immersion programs (Lindholm, 1987, p. 12). TWI programs take features from these two bilingual worlds of immersion. *Bilingual* programs begin with students being taught in their native language. The goal is for students to shift into English as the language of instruction. *Immersion* programs differ in that the language of instruction is the students' second language (Christian, 1996a; Howard and Christian, 1997). *TWI programs*, on the other hand, maintain two languages in the classroom. Both are valued; both are used. In two-way classes, there are two groups of students: one group from the majority language and one from the minority language (Christian, 1996a; Howard and Loeb, 1998; Lindholm, 1987). The interaction of native speakers is most advantageous to language learning (Howard and Christian, 1997).

Programs in the United States that utilize two languages in the classroom have three important goals. First, it is hoped that students will achieve high levels of proficiency in their first and second languages (Christian, 1996a). Not only will they learn about both languages, they will also understand and appreciate the cultures involved (Howard and Christian, 1997; Lindholm, 1987). Next, students are expected to do well in academic subjects, which are taught in both languages. And third, students will hopefully develop positive attitudes towards both languages and towards themselves (Howard and Christian, 1997). This last goal is especially crucial for minority students who have traditionally felt like second-class citizens in American language classrooms (Christian, 1996b; Howard and Loeb, 1998).

Most TWI programs begin in elementary schools and run from kindergarten through the sixth grade. Some continue into junior high, and a few continue through high school. TWI programs are scattered around the United States, with the highest number (in descending order) in Cali-

fornia, New York, and Massachusetts. No matter where these programs are located, they share similar features (Christian, 1996b).

All TWI programs have students of two languages in one classroom, preferably an equal number of students speaking each language. One language is used at a time to teach all subjects: language and content-area subjects (Christian, 1996a; 1996b; Howard and Loeb, 1998; Lindholm, 1987). Classes are team-taught. Although both teachers are bilingual, one teacher speaks the majority language; the other teacher, the minority language (Howard and Christian, 1997; Lindholm, 1987). Students receive content-area instruction together, sometimes in one language and sometimes in the other. The percentage of time that each language is used varies from one program to the next. Some use each language 50% of the time from the onset. Others begin at 90/10; still others, 80/20. The ultimate goal is to use each language 50% of the time (Christian, 1996a; Lindholm, 1987). Most TWI programs employ Spanish paired with English, though several programs around the country have Portuguese, Cantonese, Korean, Navajo, Japanese, or French as their minority language (Christian, 1996a; 1996b; Howard and Christian, 1997). The number of programs around the United States has grown considerably. McCargo and Christian (1998) found that in 1987 there were approximately 30 TWI programs in this country. By 1998, that number had increased to 225 (cited in Howard and Loeb, 1998).

Results of TWI programs are promising. By the fifth grade, many students in these programs demonstrate proficiency in both the majority and minority languages (Christian 1996a; 1996b; Mahr and Christian, 1993). Also, the students' academic performance in two-way programs is equal to, or greater than, that of students in regular classes (Mahr and Christian, 1993). It's impressive to note that TWI programs lead to a change in attitude among minority students studying a second language. These students often held the view that their native language was subordinate to the target language, and they acted accordingly. Native language use, students believed, was reserved for informal situations, while the target language was used in more formal situations, such as in schools. However, by including both languages, TWI programs give equal status to the native and target languages. Minority students leave these programs feeling more positive about their native language (Tarone and Swain, 1995).

The Use of American Sign Language in a Two-Way Bilingual Immersion Program

The concept of using American Sign Language (ASL) in a two-way bilingual immersion program is a relatively new idea. It is being done successfully in Laurent Clerc Elementary School in Tucson, Arizona. This unique version of a TWI program combines hearing and deaf students who are fluent in English and ASL, respectively. The program began as a K-3 program in 1997 with thirteen students. Since that time, it has been expanded to include almost 60 students. Parents and teachers alike are delighted with the children's progress in both English and American Sign Language (Tapia, 1997).

Two-Way Bilingual Immersion Course at Camden County College

As mentioned above, most of the TWI programs in America serve elementary and secondary students in intensive two-way environments that may continue for years. In the summer of 1998, an eight-week, experimental two-way bilingual immersion course was offered to deaf and hearing adults at Camden County College (CCC) in Blackwood, New Jersey. Enrollment in this class was limited to an equal number of deaf ASL signers and hearing English speakers. Twelve students registered. Having an equal number of deaf and hearing students allowed the class to be paired into six teams for class presentations.

The six deaf participants in the two-way class were either students at the college or worked in some capacity in the Interpreter Education Program. One student was an adjunct professor who taught American Sign Language at the college. Another was a tutor and lab assistant in the Interpreter Education Program. We also had two international deaf students in the class. As is the norm in deaf education, none of our deaf students had studied ASL formally in their elementary, junior high, or high school settings.

The hearing participants were all students or graduates of the Interpreter Education Program at Camden County College. All of them had completed at least three courses in American Sign Lan-

guage. One student was a graduate of the Interpreter Education Program and had recently been hired as a teacher of the deaf at a local elementary school. Another was about to graduate upon completion of this course.

The teachers of the TWI class at CCC are assistant professors at the college. Both are hearing. They received Master's degrees from Gallaudet University (the only liberal arts college for the deaf in Washington, DC). Ms. Falvo, whose degree is in Linguistics, teaches English to the deaf students; Mr. Klucsarits, who has a degree in Interpretation, teaches ASL and interpreting to hearing students. The teachers "solicited" students for the TWI class by promoting the two-way idea to students in their spring courses.

Challenges

Both groups of students faced similar challenges in the two-way class. Many of them believed there exists an exact, one-to-one equivalence between English words and ASL signs. Students working between ASL and English often ignore context when working between ASL and English.

Syntax also poses problems for students. A common concern in TWI programs is that second language students will, at times, fall back on the syntax of their first language, resulting in a mix of their first and second languages. (Genesee, 1999). Many of our students did muddle ASL and English grammar. This occurred for two reasons. First, some students had been under the mistaken impression that the proper way to sign, especially in school, was by coding English: using a "signed English" system. Johnson, Liddell, and Erting (1989), discuss the problems associated with codes of English, which attempt to represent English grammar by modifying American Sign Language (p.5). Second, many of the students were unfamiliar with grammatical rules of both their native language and the target language.

A conscious effort was made in the CCC class to avoid English codes. We also discouraged signing and speaking at the same time, which, by its very nature, is a form of coded English. American Sign Language was used during classroom discussions. No voice is used when signing ASL.

Codes of English present still another, complex problem. Over the years, deaf people have struggled to understand the signing of hearing people who code English, which is extremely different from ASL. The deaf have also struggled to make themselves understood (to hearing people) by altering their ASL signing to be more "English-like." This use of a "contact language" is common when hearing and deaf people interact (Valli and Lucas, 1995). However, the reliance on contact language clouded the judgment of our deaf students, who were asked to model ASL for the hearing students and critique their partners' ASL summaries. We found that the deaf students accepted these summaries, not on the basis of their ASL accuracy, but on the degree to which the hearing students' contact language was understood.

Most two-way programs in America employ two spoken languages, and most of these languages have both a spoken and written form. In the class at CCC, this was not the case. ASL has no written form. Therefore, when ASL stories were incorporated into the class, video recordings were used.

Spoken English presented a unique difference between this TWI course and most bilingual immersion programs: deaf students have no access to spoken language. As a result, for English interactions, we used a computer chat program. The classroom had eleven computers that were linked so that students and teachers could send and receive messages. We did not attempt to teach our deaf students how to *speak* English; we relied on English in print.

Finally, the deaf students had extremely varied backgrounds. Some had attended residential schools for the deaf while others were mainstreamed with hearing students throughout much of their educational careers. While the former group had had a great deal of exposure to the language and culture of the Deaf Community, the latter group had less. In addition, deaf students began the TWI class with distinct levels of English fluency.

Class Principles and Goals

At the beginning of the semester, we established the following class principles. An inherent characteristic in our class was that equal respect be given to both languages (Christian, 1996a). We designed the class so that American Sign Language and English would be used equally throughout the semester. Our goal was for a 50/50 approach, believing that students learn language best when the language is *used*, not merely *explained*

(Genesee, 1999). In addition, we asked that respect be given to all class participants as language learners and that students be accepting of classmates' limitations.

A major goal of the class at CCC was to bring together deaf and hearing students who were trying to master a second language. Our aim was to explore and contrast language features of both ASL and English, as well as to improve students' first and second language abilities. Students and teachers modeled both ASL and English to discuss the grammar of the two languages. This sharing allowed students to contribute meaningfully to the class (Tucker, 1990). Our TWI class encouraged student interaction and dialogue in an environment that was fully accessible to both groups of students (Lindholm, 1987).

Class Content

The two-way bilingual immersion class at CCC met twice a week for eight weeks, a total of 16 sessions. During the first four weeks, the course focused on morphology. Both English and ASL features having parallel (or similar) forms were included. When the focus was subject-object agreement verbs in ASL, for instance, the English parallel presented was SVO construction. Since both languages make use of compounding, this topic was also taught during the first four weeks using examples in ASL and English. (See Appendix A for the lesson on compounding). The focus of the second half of the course was syntax. For example, role shift and eye gaze in ASL parallel direct and indirect speech in English. Also, we explained similarities and differences between rhetorical questions in both languages. Another topic in syntax was conditional sentences in ASL and English (appendix B shows the lesson on conditionals).

As the semester went on, we realized that we had included a great many grammatical features, and teaching these features required more time than we had allotted. We had anticipated short, quick lessons for many of the structures we'd planned to teach. That turned out to be more the exception than the rule.

Class Presentations

Each deaf student was paired with a hearing student. Each pair was required to present every two weeks, incorporating examples of the features we had recently taught. The presentations included a summary of each of the following: an ASL story on videotape, an English story by O'Henry, a taped TV situation comedy, and a short novel by John Steinbeck. Students decided to do two of these presentations with the same partner. For the first and last presentations, students kept the same partner. For the second and third, they worked with someone new. Each student summarized the work in his second language. The deaf students typed their English summaries and showed them to the class using an overhead projector. (See Appendix C for excerpts.) The hearing students signed their summaries to the class in ASL. All presentations were videotaped.

Students quickly learned that these summaries required a great deal of time outside of class, since each person was responsible for helping his partner create an accurate summary. We were told that many practice sessions were held and numerous revisions were made before the pair was ready to address the class.

After one pair presented summaries in class, each student illustrated the grammatical points he had recently learned in his second language. The grammatical features were built into the ASL and English summaries. For example, if direct and indirect speech were recent English topics, the deaf student found a way to include an example of these in his typed summary. The hearing partner included role shift in his ASL summary as a parallel to the direct and indirect speech of English. The examples became the focus of the students' discussions.

Initially, the purpose of asking students to include examples of grammatical features was to help us assess their mastery of the material taught. What we didn't expect were the fascinating class discussions that followed all presentations. Lively interactions ensued in which students analyzed their use (or misuse) of language. Consequently, we had not anticipated the extra time needed to complete presentations. Near the end of the semester, when we realized we were running out of time, students agreed to extend the summer session and have a seventeenth class. All of our students felt it was important to allow ample time

for everyone to present. They didn't want to compromise the remaining presenters. Nor did students want to bypass or hurry through the subsequent class discussions.

Perspectives

As teachers, this two-way bilingual course using English and ASL was truly inspiring. Students not only took this course, they became *part* of it. Some students would stop us in the hall to tell us of out-of-class discussions they'd had with classmates regarding a form we'd studied. This was especially gratifying, since social interaction is a major element of second language learning (Howard and Christian, 1997). During class, students listened attentively to classmates who explained their use of particular features. There was laughter, lots of interchange, and contagious enthusiasm.

Students reacted favorably to the TWI course. We received many positive comments from them. (See Appendix D for the journal statements made by students.) We now have a waiting list of hearing students who would like to take this course. Two of the students who completed the course would like to take it again. The student who teaches deaf children has told us that she often includes features of the TWI class in her teaching. The ASL teacher suggested that his wife (who also teaches ASL) take the course. All of our students recommended that this experimental course be made a permanent one in our college. Camden County College has since approved the Two-Way Bilingual Immersion course.

Future Changes

In hindsight, some changes could be made to improve a TWI class using American Sign Language and English. First and foremost, the teachers should be native speakers of the languages used in class: one hearing, native English speaker and a deaf, native signer. Another important change would be to have a less ambitious syllabus, eliminating some of the grammatical features taught. This would allow teachers to spend more time on the features retained in the course. The requirements for class presentations would also change. Rather than asking students to do four presentations per semester, we would reduce that number and request that students videotape revisions. Next, in order to encourage students to do an equal amount of work in both languages and to become better language models, a portion of each student's grade would be based on the content of his partner's presentation. We hope this would help to alleviate the problem of deaf students' acceptance of ungrammatical ASL. Finally, a two-way bilingual immersion approach could be expanded to content area courses, rather than limiting the concept to language classes (Tucker, 1990). With these improvements, the next two-way bilingual immersion experience at Camden County College can be more rewarding than the first.

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APPENDIX A

COMPOUNDS

(Celce-Murcia and Larsen-Freeman, 1999; Valli and Lucas, 1995)

Definition: Compounding is a morphological process in which a new word is created by joining two existing words. There are phonological indicators for compound words.

English:

Phonological process:

Two words are brought together to form a new word.

The stress on the second word in the compound is reduced.

Example: home work

homework

Morphological result:

A new word is created with a new meaning.

The meaning of the new word tends to be more specific.

Example:

Green house: a house which is green.

Greenhouse: a building made primarily of glass for the cultivation of plants.

3. The new word will tend to be the same part of speech as the second word in the compound.

Example: green house greenhouse
(adj.) (noun) (noun)

(Celce-Murcia and Larsen-Freeman, p. 35)

ASL:

Phonological process:

Two words are brought together to form a new word with a new meaning.

All internal and repetitive movement is eliminated.

The first or only contact hold of the first sign is kept; the rest is eliminated.

The non-dominant hand anticipates the second sign.

Morphological result:

A new word is created with a new meaning.

The meaning of the new word is more specific.

(Valli and Lucas, pp. 57-62)

APPENDIX B

CONDITIONALS
(Celce-Maurcia and Larsen-Freeman, 1999, pp. 548 - 550)

Facts about conditionals:

- Conditional relationships involve a condition: a situation with respect to circumstances.
- Topics discussed depend upon conditions given in the sentences.
- Conditional sentences have two clauses:
  — a dependent clause (the "if" clause), and
  — an independent clause (the "then" clause).
- Conditionals are used to show three different semantic relationships:
  — factual
  — predictive
  — imaginative

FACTUAL CONDITIONALS state truths.
- Generic: If water is frozen, it becomes ice.
- Habitual: If Tom cleans the living room, Sally cleans the bathroom.

PREDICTIVE CONDITIONALS state events that are likely to happen.
- If you eat your vegetables, you can have dessert.
- If it snows, class will be canceled.

IMAGINATIVE CONDITIONALS
- Hypothetical — unlikely to happen
  — If I won the lottery, I'd do lots of traveling.
- Counterfactual — subjunctive
  — If I were you, I'd keep my mouth shut.

ASL CONDITIONALS
(Cokely, and Baker, 1980; Humprhries and Padden, 1992)
- Eyebrows are raised.
- Head is titled to the side.
- A short pause may be included.
- The sign # IF may or may not be included.

ENGLISH CONDITIONALS
- If the dependent clause is first, it is set off with a comma.
  The independent clause may or may not have the word, "then."

  EX.: If I pass this course, I'll be thrilled.
- If the independent clause is first, there is no comma.
  The word "then" is not used.

  EX.: I'll be thrilled if I pass this course!

APPENDIX C

EXCERPTS FROM STUDENT EXAMPLES

[NOTE: English examples are given below. ASL examples were signed during class.]

1. TV Situation Comedy
   Third Rock From the Sun
   (paraphrased summary)

Grammatical feature: Topic/Comment

The commander made a request of the dean. He asked the dean to move a ramp to the front of the building. The commander didn't realize that the dean herself was in a wheelchair. She responded, "We can handle it right away." The commander responded, "Rubber-stamping — even better!"

English topic: Rubber-stamping

2. Short Story
"One Thousand Dollars"
by O'Henry

Grammatical Features Included
1. TENSE: Gillian's uncle *had* recently *died*.

2. NOUN/VERB PAIR: Gillian got in the taxi and told the *driver* to *drive* Gillian to his lawyer's office.

3. Novel
Tortilla Flat
by John Steinbeck

The story begins with Danny, the main character, arriving home from World War II. Upon doing so, Danny discovers that his grandfather has died and he has inherited two houses in Tortilla Flat.

One night, a drunken Danny met his friend, Pilon, in the woods. He asked Pilon, "Do you have any wine?" "Of course I do," said Pilon. "What would make you think otherwise?" Danny laughed and the two of them sat and drank. Danny told Pilon about his houses and asked Pilon if he wanted to live with him. Pilon accepted. While they were staying in the house, Pilon felt very uncomfortable there. He asked Danny, "Can I rent your other house for $15.00 per month?" Danny agreed.

Grammatical Features
ASL: Role shift between Danny and Pilon
English: Direct speech

1. He asked Pilon, "Do you have any wine?" "Of course I do," said Pilon. "What would make you think otherwise?"

2. He asked Danny, "Can I rent your other house for $15.00 per month?"

English:
Indirect speech
1. Pilon accepted.
2. Danny agreed.

4. Novel
The Red Pony
by John Steinbeck

The Red Pony is a story about Carl and Ruth Tifflin, and their ten-year-old son, Jody. The Tifflin family live on a farm, along with Billy Buck, who is a hired hand and cares for the animals.

One day, Jody's father called him out to the horse stable. Jody was a little nervous and tried to think of something that he may have done wrong. When Jody got to the stable, he found that his father had bought him a brand new pony at the sheriff's auction and a show saddle as well! Carl and Billy Buck were both happy to see Jody so excited. Billy Buck asked Jody, "What are you going to name him?" Jody had to think a minute. "If he doesn't already have a name, I think I will name him Gabilan," said Jody.

Grammatical Feature
Conditionals
"If he doesn't already have a name, I think I will name him Gabilan," said Jody.

APPENDIX D
TWI JOURNAL

WHAT HAVE YOU ENJOYED ABOUT HIS CLASS SO FAR? WHAT HAS BEEN YOUR FAVORITE ACTIVITY?

- I enjoyed this class. I have learned a lot about two languages. I never thought that ASL has role shift, classifiers, topics, etc. What is my favorite activity? I liked the ASL videotape and TV program. But of course, I liked reading the book.

- My favorite activity has been discussions.

- I enjoyed learning a lot in English, but sometimes English was hard for me. But that's good, because I learned a lot about English.

- I liked getting feedback about how to improve my signing skills.

• I've enjoyed the mix of Deaf and hearing students and learning the grammatical rules of *both* languages.

• The two instructors signing so fast, it was a wonderful challenge to understand them both.

WHAT HAVE YOU NOT ENJOYED ABOUT THIS CLASS SO FAR? WHAT WOULD YOU CHANGE ABOUT THIS CLASS?

• I would like to do less homework.

• I understand this is an 8 week course; however, the projects seem to be very time-consuming. No time for summer fun.

• I didn't like using the computer.

• Scheduling conflicts with my partner. I'm not sure exactly what I'd change, because though conflicts were annoying, the benefits of the class far outweigh the tedious annoyances.

• The computer was confusing.

WHAT MORE WOULD YOU LIKE TO LEARN?

• I would like to learn everything, but I understand you don't have time to teach everything.

• I would like to do more projects, because they are a lot of fun.

• The deaf students want to use the computer more.

• I think it might be good to share what individuals learned from their partners.

• More presentations!!

WHAT SHOULD BE DECREASED?

• Less projects so we can polish our projects.

• Computer. Why, because I can't type fast.

ARE THERE ANY OTHER COMMENTS YOU WOULD LIKE TO MAKE?

• I would like this class to continue next year. This class is really awesome!! I'll give you "A" for this class! HA! HA!

• I liked the cooperation with partners all the time.

• Please!! Schedule more bilingual classes.

• It's a great class.

Hot Topics Session Report: Proposing an English Think Tank for Summer 2000

Facilitated by Paula George
Pikes Peak College, Colorado Springs, CO

and Linda Marie Allington
Salt Lake City Community College, Salt Lake City, UT

The Western Region Outreach Center and Consortia (WROCC), supported by the PEPNet regional center directors, proposed to host an English Think Tank during the summer of 2000. This "Hot Topics" session focused on the proposal to bring together instructors from all over the United States who teach English to Deaf and Hard of Hearing students (hereafter D/HH students) through ASL in the postsecondary environment. Initially, it was also proposed to bring in mainstream teachers who are quite successful with Deaf students, but that has been postponed to a later time. The purpose of this meeting, or "Think Tank," is to form a network of instructors who are willing to share successful strategies, methods and practices. It is hoped that participants can also eventually develop some written recommendations for curricular scope and sequence, as well as achievable standards that Deaf and Hard of students can be expected to reach in terms of English writing proficiency.

Concerns brought up by the participants in the Hot Topics Session included:

- Justifying programmatic modifications/accommodations to administrators
- Justifying separate needs to administrators, including: Why D/HH students have literacy issues, why they still "belong" in the postsecondary environment, and why teaching English through ASL in separate classes is most effective
- Finding sufficient time and resources to develop such courses
- Running and funding courses with very few students
- Teaching multiple levels of students to achieve numbers
- Developing professional roundtables or networks to provide peer feedback
- Collecting ideas from each other and developing best practices
- Creating an e-mail listserv and a web page
- Collecting videos of professionals working and discussing ideas
- Developing models to demonstrate reasonable and achievable goals for students in reading and writing
- Identifying salient features of grammar that students can and should master
- Addressing testing and assessment issues

In light of these and other concerns addressed at this session, the first English Think Tank will be hosted in Salt Lake City, Utah on July 18-21, 2000.

Reports of recommendations and work products will be made available through PEPNet. At this writing, it is expected that there will be about twenty participants forming a core group and that there will be future annual conferences and an effort to build and reach all who are interested in this effort. The proposal for what is to be accomplished at this first Think Tank follows.

Statement of Need

Literacy is a common barrier to Deaf and Hard of Hearing students in postsecondary education. There needs to be a coherent approach to teaching literacy skills across the nation. There needs to be a logical, standardized scope and sequence of training to which students can have access anywhere in the country where Deaf classes are provided. Teachers need guidelines to follow when designing curricula for Deaf and Hard of Hearing adults.

Proposal

We propose to convene a Think Tank which comprises Bilingual teachers who are currently using or have in the past used ASL to teach English literacy skills to Deaf and Hard of Hearing (D/HH) adults in postsecondary education, other directly concerned parties, and consultants. This group will focus on developmental English and pre-developmental English. It is anticipated that we will expand our scope in subsequent years to include English as a Second Language, College English, Community-based English Programs, and English for Specific Purposes.

Follow-up Report: "PEERS" is Born

Eighteen dedicated instructors from all over the United States met by invitation in Salt Lake City on July 18-21, 2000. This meeting was sponsored by the Western Region Outreach Center and Consortia (WROCC) and hosted by the Rocky Mountain Connections Center, a hub of WROCC. Paula George of the Southwest Regional Resource Center and Linda Marie Allington of the Rocky Mountain Connections Center were the co-chairs. There was tremendous energy and excitement as each participant shared successful practices and experiences, as well as concerns and frustrations, from their own programs. Many issues were discussed and plans of action started taking shape to create a website and work products that may later benefit others in our field. Realizing that there is so much to do and that as instructors, there is a real need for ongoing support and contact, this group formed a new organization: PEPNet Postsecondary English Educators Resources and Support network, or "PEPNet PEERS." The following identity statement and objectives were formed:

PEPNet PEERS

Postsecondary English Educators
Resources and Support

We are a group of postsecondary language (Sign and English) educators who work with students who are Deaf or Hard of Hearing, founded in July 2000 and sponsored by PEPNet. Our purposes are:

- To promote educationally and linguistically appropriate, accessible classroom environments;
- To provide resources to educators which encourage the development of student competencies in American Sign Language and English literacy;
- To develop techniques for students to achieve literacy competencies supporting their academic, social, vocational/career, and personal goals.

PEERS Objectives:

- Develop a professional network of instructors teaching English to Deaf students, including a listserv, website and annual faculty institutes.
- Share curriculum ideas, strategies, materials, best practices and teaching tips.
- Develop suggested scope and sequence for each level of English course targeted to Deaf students.
- Develop recommendations of best practices and suggested evaluation tools for content area and English mainstream instructors.
- Provide outreach and technical assistance to postsecondary institutions and K-12 instructors through PEPNet.

The website will soon be up and linked to the PEPNet website <www.pepnet.org> and the WROCC website <wrocc.csun.edu>. Individuals engaged in teaching English to Deaf and Hard of Hearing students who are interested in joining the listserv may do so at:
<http://groups.yahoo.com/group/PEPNetPEERS/join>

For further information, please contact Linda Marie Allington <allingli@slcc.edu>, Paula George <paula.george@ppcc.cccoes.edu>, or Gary Sanderson at WROCC <gary.sanderson@csun.edu>.

Transitioning to College for Deaf Students: College? Now What?

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New River Community College, Dublin, VA

The following transcript is taken from the PowerPoint presentation, *Transitioning to College for Deaf Students: College? Now What?*

- How do I decide my career goal?
- How do I choose the right college?
- How do I apply to college?
- How do I enroll in the college of my choice?
- What type of accommodations do I need?
- How do I get these services?

COLLEGE GOAL?

- I have decided to attend college.
- How do I decide my career goal?
- What will I study/major?

1. Self analysis - likes and dislikes
- Interest inventory
- Vocational education
- Aptitude tests

2. Gather information on different careers
- Library
- Computer programs
- Career fairs
- Visit work sites
- Ask questions

3. Discuss with different people
- High school counselor
- Teachers
- Vocational rehabilitation (VR) counselor
- Parents and family

WHICH COLLEGE?

- How do I choose the right college for me?

1. Gather information on different colleges (start 2-3 years before graduation).
- Library
- College catalogs
- "College and Career Programs for Deaf Students"

2. Does the college have my career study/major?

3. What are the requirements for admission
- GPA
- SAT
- High school transcript
- Application
- High school diploma/GED

4. Does the college have a deaf program?
- Do they already have interpreters, free tutors, notetakers, assistive devices?
- How are the notetakers and tutors selected? Are they trained?
- Are the interpreters state screened or nationally certified?
- How many Deaf students?
- When established or when first deaf student enrolled?
- Every year deaf students? Or occasionally?

5. If no deaf program...
- I may need to educate the college about deaf needs/accommodations
- I may need to seek qualified support services (i.e. interpreters, tutors, notetakers)

6. How far is the college from home?
- Do I have a car?
- Do I want to drive to/from school daily?
- Do I want to live in a dorm or an apartment?

7. Visit the colleges that meet my needs.
- Major
- Admissions requirements
- Support services/accommodations
- Comfortable environment (friendly, accessible, positive experience)

1. How do I apply to college?
- Admissions requirements
  ? High school transcript
  ? Admission applicant package

2. How do I pay for college?
- When do I apply? (EARLY)
- Financial Aid Forms (FAF)
- College financial aid forms
- Work study program
- Grants
- Scholarships
- Loans
- Vocational Rehabilitation (VR)

3. Who do I see?
- Admission staff
- VR
- Support services staff or deaf program staff

HOW DO I ENROLL IN THE COLLEGE OF MY CHOICE?

1. Meet with the college counselor to register for classes.

2. Review my finances and total college costs
- Tuition
- Books/supplies
- Room/board (meals)
- Apartment (food, utilities, rent)
- Transportation

3. Who will pay for school costs?
- Parents
- Myself (SSI, savings)
- Financial aid (grants, scholarships, work study)
- VR

SPECIAL SERVICES?

1. What type of accommodations do I need to request?
- Interpreter
- Notetaker
- Tutor
- Assistive listening devices
- TTY
- Other

2. How do I receive these services?
- Ask college counselor
- Ask student support services/deaf services staff

- IT IS YOUR RESPONSIBILITY TO ASK FOR THESE ACCOMMODATIONS.

SUMMARY

1. Plan in advance
2. Research, investigate, gather information
3. Visit
4. Fill out forms
5. My responsibility to ASK for assistance
- Questions
- Service/ accommodations

Same Problem, New Solution

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Oklahoma City Community College
Oklahoma City, OK

Chimene Long
Educational Technology Specialist
Oklahoma City Community College
Oklahoma City, OK

The same problem is, of course, the challenge of teaching English to deaf students. Oklahoma City Community College has always had an open door policy, meaning there are no admission requirements other than a high school diploma or equivalency. Many of our students, hearing or Deaf, have needed remedial instruction, especially for English. A developmental "Learning Skills" curriculum was created in order to address those deficiencies.

When a grant established the Deaf and Hard of Hearing Program in 1990 to provide extended services to Deaf students, beyond mandated accommodations, students who did not have the skills to enter college English Composition were placed with an interpreter into the Learning Skills courses. Over the years this placement created some frustrated students, interpreters, and faculty members. In response we explored other options. English as a Second Language (ESL) had long been a program on our campus taught by instructors specifically trained in second language acquisition issues. This seemed to be a viable choice for Deaf students, so they were placed in ESL courses with interpreting services. But before we could determine if this was an appropriate placement, the focus of the ESL program changed from reading and writing to listening and speaking.

Responding to that change, separate English courses were initiated with a Deaf instructor who would teach English using ASL. We offered our first course in the fall of 1997 by adapting the Learning Skills College Writing I curriculum. Based upon the Deaf students' responses, we offered subsequent courses for Deaf students during the rest of that academic year and into the next.

The English Department supported the part-time Deaf instructor philosophically as well as financially, but—due to budget challenges—a strict enrollment policy was initiated. Twelve students were considered minimum enrollment, which posed a challenge for the Deaf Program. There were not enough "regular" full-time students to support the class minimum. To increase enrollment, a local civic club agreed to provide scholarships covering the cost of the English course for Deaf nontraditional part-time students. The numbers met the minimum enrollment requirement for a couple of semesters, but it became evident that we would not be able to generate enough new students to preserve the courses. Searching for other avenues to build enrollment, professional networking discussions revealed that other institutions with Deaf students were having the same problem of providing appropriate English instruction. The new solution became distance education. Using distance education would provide quality instruction for their students and increased enrollment for maintaining our courses.

Same Problem, New Solution...Technology!

Distance education in Oklahoma has a specialized program called "OneNet" (see Appendix I). All colleges, universities, technical centers, and high schools are networked together to provide classroom interaction over distances. The system functions with full motion video relay that provides smooth transmission of movements essential for communicating clearly in sign language. In the spring of 1999, we piloted a distance education

English course for the Deaf. We teamed with a four-year institution that had a considerable Deaf enrollment but which did not have specific English classes for the Deaf. This partnership would allow both institutions to share resources, "their students," "our classes," and we all believed this to be a "win-win" proposition.

The actual implementation of this distance education class and the procedures to utilize the technology proved to be not so simple a solution.

The Technology

The distance education classroom on our campus was designed specifically to use the technology for the maximum student/instructor interaction. (See Appendix II). The two televisions located in the front of the room recorded everything that happened inside the classroom and allowed the students to see each other as well as view overhead documents. The four televisions in the back of the room were used to view other sites. Since we only had one site, the first television on the left (number 1) was used. Students from the "other" site could be seen on that set at all times. The fourth television carried a view of the instructor and the "home site" classroom. On each table was a microphone that controlled the student's video camera. The cameras were located in the front and back of the room. Students would press the microphone on and the video camera would automatically focus on them. The technician could manually focus the camera, especially if it needed to be closer. The instructor's camera was manually programmed so her image would fill most of the screen but in order for that to happen she had to remain seated and was not able to move about the room interacting with students. There was a fax machine for sending homework and testing back and forth between the two sites. There was a phone in case of technical emergencies. The room was also equipped with two computers. The first computer allowed access to the Internet and basic "office" software. The second computer controlled all of the technical functions within the classroom. Underneath the main computer were two VCRs. Every class was recorded in case of technical difficulties or absent students. The technician could also view the tapes to determine if any changes needed to be made. The other VCR was for watching videos and since this was a vocabulary class, it was never used. The other site classroom was not as "studio like" as ours but had basically the same equipment.

Same Problem, New Problems

Procedural problems for using the technology had to be conquered before smooth communication between sites could occur. In order to communicate, the students at the other site would tap on their microphones when they had a comment. The instructor would be alerted to this and the technician would "switch" the front television from its present image to the new image at the other site. The students at either site were not accustomed to this procedure and would often forget to "touch" the microphone before signing/speaking. Sometimes it was difficult to clearly see the students' signs at the other site. This was because the camera was not focused close enough and we could not control it from our campus. Figuring out their fingerspelling was almost impossible, even though full motion video relay was used.

Not having a technician that could sign at the other site was also a problem. The students at that site were unable to make their needs known directly to the technician when something was not functioning properly. Just having a small understanding about deafness would have been helpful. To illustrate this point, during one of the class sessions the video portion of the transmission disconnected; the OneNet technician did not understand why we could not just rely on the audio portion and continue the class as a regular distance education class would.

One other problem we encountered was the interaction between the instructor and the students at the other site. Each class was videotaped to provide instruction for students who were absent as well as providing a means of monitoring the class for the purpose of making improvements. When we switched the television screen from our classroom to the other site for questions, their image was brought up on the front televisions that were used for making the recordings and the questions were recorded. However, the instructor would automatically respond before the "switch" could be made again and her answers were not recorded on the video. In essence the videotape only recorded half the conversation. An absent student viewing the tape would not have the benefit of the instructor's answers.

Another problem was scheduling. The university that we "partnered" with completed their academic schedule two weeks earlier than our campus. We were unaware of the differences between our two schedules when we began and the university students had to drive from their hometowns to complete the course.

Same Problem, New Solution...Successes

Reviewing this endeavor we felt we accomplished our initial objectives, which were to reach more students and maintain the specialized English course. Using this technology allowed more Deaf students from other institutions to benefit from a specialized course taught by a Deaf instructor, thus reducing the replication of programs and enhancing the ability to share resources. We learned from the challenges we encountered and feel better prepared to offer additional distance education courses in the future.

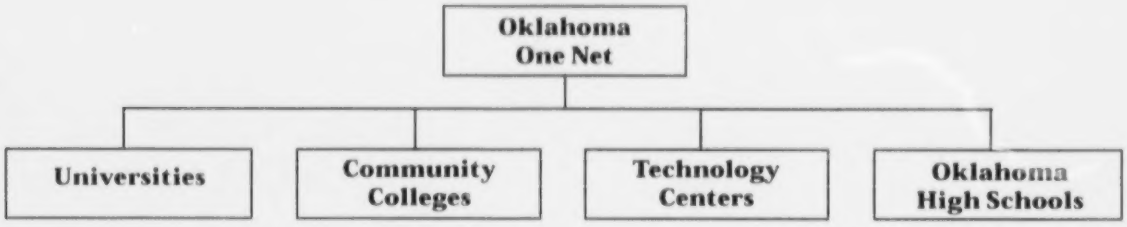
Same Problem, Future Solutions

Unfortunately, the Deaf instructor is no longer here, nor the full motion video that made this class possible. The OneNet System has opted to compress the bandwidth it uses to deliver distance education. The decision was linked to cost factors but the compression produces a delay and therefore is not capable of the smooth visual display required for accurate sign transmission. There are other systems such as "Procam" and "Team Station" that can be used to facilitate distance visual communication, and we have begun to explore their capabilities and although not "full motion," they might have some application for serving Deaf students.

It is our belief that technology will continue to improve and offer opportunities to meet the needs of Deaf students. Hopefully you can benefit from our experiences by avoiding some of the problems and capitalizing on the successes.

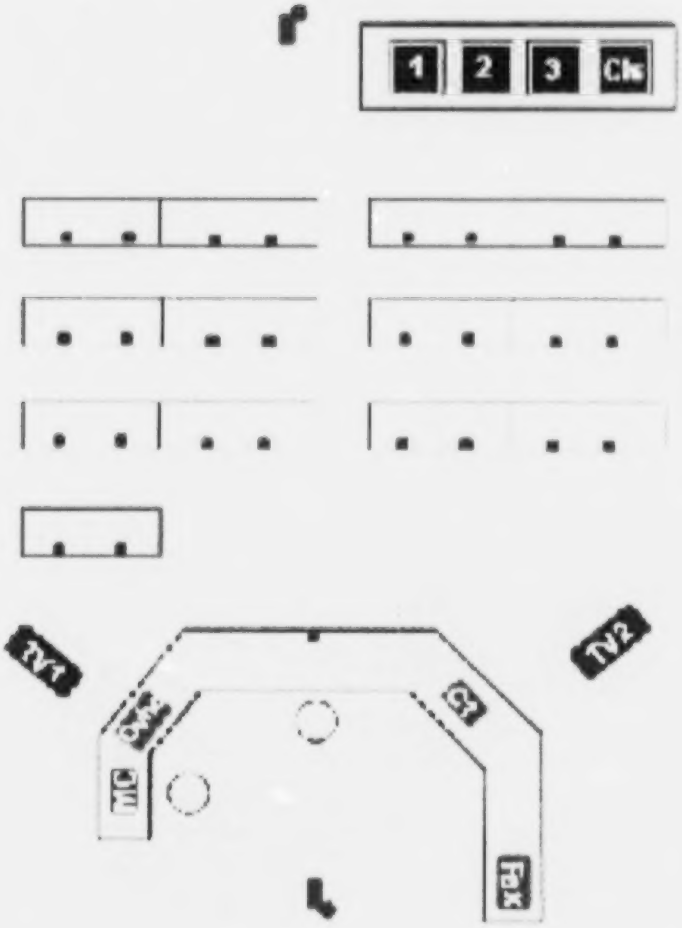
Appendix I

Flowchart: OneNet and Its Affiliates



Appendix II

Distance Education Classroom Setup



Using the ACT for Admissions and Placement at NTID[1]

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Abstract

This paper summarizes findings of studies conducted at the National Technical Institute for the Deaf concerning the performance of deaf and hard-of-hearing students on the ACT Assessment. The paper describes the ACT Assessment, and presents normative information about performance of a national sample of deaf and hard-of-hearing test takers in addition to results of performance of students entering NTID. Results for the studies reported in this paper indicate that the ACT Assessment is valid when used with postsecondary level deaf and hard-of-hearing students seeking admission to two and four year colleges in the United States. Caution must be exercised when interpreting results when students score below 14 on the reading and English tests.

Introduction

Most every college requires some form of testing, either for assisting with the admission decision, or with placement after admission. The National Technical Institute for the Deaf (NTID) is no exception. In 1969 NTID began using the Stanford Achievement Tests as a primary indicator of an applicant's academic preparedness to enter college. More than thirty years ago, when the Stanford Achievement Test was adopted, about 60 percent of NTID applicants attended schools for deaf students where this test was widely used to assess annual achievement gains. At that time, it made sense to adapt the Stanford tests to assist with our admission decisions.

There have been many changes in the education of deaf students over the past 30 years. NTID has not been immune to these changes. First of all, today only about 25 percent of applicants for admission to NTID come from schools for deaf students; the remaining 75 percent enter from mainstreamed high schools or are transfers from other colleges. Many of the students applying from mainstream high schools do not have access to the Stanford Achievement Test, which means applicants often must make special arrangements to take the test battery.

Second, an increasing percentage of entering deaf and hard-of-hearing students are seeking admission to baccalaureate-level programs. The other colleges of Rochester Institute of Technology (RIT) require scores on the Scholastic Aptitude Tests or the American College Test (ACT) for admission. Currently, more than 40 percent of NTID's students are mainstreamed in programs with hearing students—up from only 25 percent just 10 years ago. The Stanford Achievement Tests did not provide the information necessary to make a decision concerning admission to the programs available through the other colleges of RIT.

Third, with increasing costs to both NTID and its applicants, it has been necessary for NTID to reduce its orientation program, called Summer Vestibule, from four weeks to 10 days. This re-

[1] The research reported in this paper was supported, in part, under and agreement between Rochester Institute of Technology and the U.S. Department of Education.

duction has made it difficult to conduct the evaluations necessary to determine appropriate placement levels of entering students.

For these reasons, in 1996, NTID began searching for a test that would be accessible to students nationally, meet the needs for making quality admission decisions, and provide academic departments with information concerning the placing students in majors. At PEPNet 1998 we reported on preliminary studies conducted collaboratively by NTID and ACT concerning the use of ACT with deaf students[1], and the decision by NTID to begin using the ACT for admissions beginning in September, 1998. This paper follows up on the studies conducted in 1996 and 1997 with information about our experience with use of the ACT during the past two years. This paper will cover the following topics:

- What is the ACT;
- National norms for deaf test takers;
- Comparing the ACT with other measures of academic performance;
- Use in determining initial degree level.

What is the ACT

The ACT Assessment is a composite of tests and questionnaires designed to assist college admission and placement personnel in making quality decisions about applicants. The battery includes four tests of educational development, the High School Course/Grade Information questionnaire, the ACT Interest Inventory, and the Student Profile Section.

The tests of *Educational Development* include four curriculum-based measures in English, mathematics, reading, and science reasoning. The tests are based on the major areas of instruction in American high schools and colleges. A student's performance has a direct and obvious relationship to his or her academic development. Scores on the tests of Educational Development range from a low of 1 to a high of 36 and can be interpreted as indicated below:

- 1 to 15 need significant preparation;
- 16 to 19 minimum level of performance to enter credit-bearing college courses;
- Average for college bound seniors is 20.[1]

The ACT also reports score ranges by institutional selectivity. Table 1 below provides the ACT mean composite scores by selectivity. Mean ACT composite scores of students from schools with open admissions are less than 16, while those with highly selective admissions are above 27. It is clear that there are significant differences in the ACT scores of students depending on the selectivity of the school they are entering.

Table 1
Institutional Selectivity

Selectivity Level	*Mean ACT*
Highly Selective	>=27
Selective	22-26
Traditional	18-21
Liberal	16-17
Open	<=15

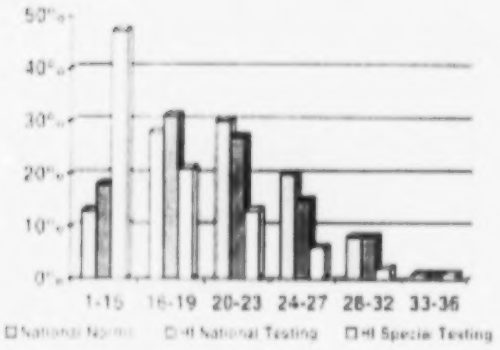
The *High School Course/Grade Information* questionnaire asks students who register for national test dates about the courses they have completed or plan to take in high school and the grades they have received. The 30 courses listed represent six major curricular areas—English, mathematics, natural sciences, social studies, languages, and arts. The courses include those that customarily form the basis of a college preparatory curriculum and frequently are required for college admission.

The ACT *Interest Inventory* is usually completed when students register for the ACT Assessment. The 90-item questionnaire results in six scales, each based on 15 questions which parallel Holland's six interest and occupational types: Science, Arts, Social Service, Business Contact, Business Operations, and Technical. Students and counselors can use results from the Interest Inventory as a basis for career exploration.

The *Student Profile* section collects nearly 200 questions of information in 12 categories related to students' educational and vocational aspirations, plans, abilities, accomplishments, and

Figure 1

ACT Composite Scores for two groups of deaf and hard of hearing test takers compared with national ACT norms.



needs. These data are useful to college and university personnel in planning curricular and co-curricular services for entering students.

National Norms

The ACT reports scores for the four sub-tests (English, reading, mathematics and science reasoning). It also provides an overall performance score called the Composite Score. In the interest of space limitations, only the composite score will be used for all analyses in the remainder of this paper.

Figure 1 provides a breakdown of ACT composite scores for two groups of deaf and hard-of-hearing students and a national sample of high school graduates (National Norms). One group of deaf and hard-of-hearing students took the test with hearing students under normal testing conditions (HI National Testing). The second deaf and hard-of-hearing group was tested using the special testing arrangements for disabled test-takers (HI Special Testing). It can be observed that deaf and hard-of-hearing students taking the ACT under special testing conditions perform significantly lower than deaf and hard-of-hearing students taking the test under regular scheduled testing. This difference is indicative that there may be reasons why special testing was chosen for these students. The score distribution for deaf and hard-of-hearing students taking the testing under regular conditions is similar to national normative distributions.

ACT and Other Measures of Academic Performance

Immediately upon enrollment at NTID students are administered a series of tests the results of which are used to place them in appropriate levels of developmental instruction in mathematics, English, and reading. Since these placement tests and the decisions resulting from their administration are currently used independent of the ACT, an opportunity exists to evaluate whether the ACT might be useful in making placement decisions. This is one way of assessing the validity of the ACT related to placement of students in various aspects of the curriculum.

Table 2 lists the correlation coefficients of the language, reading and mathematics components of the ACT with measures regularly used for placement at NTID: the reading comprehension subtest of the California Achievement Tests, the Michigan Test of Language Proficiency, and a mathematics placement test. All of the correlation coefficients easily exceed the .01 level of statistical significance.

Table 2

Correlations of ACT and SAT scores with placement tests for entering NTID students.

	ACT
Language	English
Michigan	.72
NTID Writing	.66
Reading	Reading
California	.61
Mathematics	Math
NTID Mathematics	.71

In mathematics, English, and reading entering students are assigned to five levels of skill proficiency, which are related to requirements for admission to various levels of study. These levels are as follows:

- Level A = Fundamental preparatory curricula;
- Level B = Preparatory curricula;
- Level C = Entry into AOS, Diploma courses of study;
- Level D = Entry into AAS, AS courses of study;
- Proficient = Entry into studies at the Bachelor level.

Students at levels A and B are not considered prepared to begin studies in any degree program offered at NTID. Those in level C are generally prepared to enter programs where the outcome is an AOS or diploma that requires minimal academic work in liberal arts areas such as freshman composition, humanities, and social studies. Level D students should be prepared to take entry level college courses, while those scoring at the Proficient level should need no remedial work in English, reading or mathematics, and should be prepared to begin work at the bachelor level.

Mathematics. When a student enrolls at NTID, the mathematics department administers a test which measures basic computational and mathematics skills. The results of this test, in combination with a student interview, have been used to assign a mathematics level to each student. Table 3 presents ACT mathematics means and standard deviations for the mathematics placement levels.

It is clear from studying the mean scores and the correlation coefficient that the ACT Mathematics Test discriminates among the mathematics placement levels. The mean ACT score of 13.8 and 14.8 at levels A and B indicate that significant preparatory work is still needed before students begin to pursue any academic work requiring application of mathematics skills. These findings are similar to the standards for transition reported by ACT for interpreting score results.

Reading. In the area of reading, NTID uses a combination of the reading comprehension subtest of the California Achievement Test and a vocabulary test to assign students to a proficiency level for reading. Table 4 presents the mean ACT scores for students assigned to each of these levels. Results in table 4 indicate that the reading subtest of the ACT is not able to discriminate between levels A and B, while separating students at levels C through Proficient. The ACT reading test appears not to be sensitive for deaf and hard-of-hearing students scoring below 14, and thus may not to be useful for assessments of students with very poor reading skills. This finding is supported by the relatively low correlation between the placement levels and the ACT reading score.

English. In the area of English language skills, NTID uses a writing test that was developed at NTID for assessing written language competency. The ACT English subtest is a multiple-choice test of grammar usage. The mean ACT English scores for students at each of the proficiency levels are presented in Table 5. As with the reading subtest, the ACT English subtest does not provide discrimi-

Table 3

ACT mathematics scores by placement level for students admitted to NTID.

Placement Level	ACT	
	Mean	SD
Level A	13.8	1.56
Level B	14.8	1.89
Level C	17.7	1.90
Level D	19.5	2.66
Proficient	22.9	2.50

Correlation with Placement Level .77

Table 4

ACT reading scores by placement level for students admitted to NTID.

Placement Level	ACT	
	Mean	SD
Level A	13.3	2.71
Level B	13.0	2.81
Level C	14.3	3.14
Level D	16.2	3.78
Proficient	21.0	4.90

Correlation with Placement Level .58

Table 5

ACT English scores by placement level for students admitted to NTID.

Placement Level	ACT	
	Mean	SD
Level A	12.4	3.99
Level B	11.8	2.69
Level C	13.3	3.02
Level D	17.1	4.40
Proficient	19.0	4.06

Correlation with Placement Level .44

nation between levels A and B. As a matter of fact, students at level A score, on average, somewhat higher than those placed at level B. This fact causes the overall correlation between ACT English and placement level to be relatively low. Like the reading test, the ACT is probably not sensitive for deaf students scoring below 13 in English, many of whom are scoring at or just above the chance level for the test. For levels C through Proficient, however, scores are in keeping with the reported standards for transition used by ACT for interpreting scores.

It is clear from these results that caution must be exercised when using the results from the ACT Assessment for placement in remedial courses for deaf and hard-of-hearing students scoring below 14. If we make the assumption that the assignments to the NTID levels have validity, then the ACT is not able to discriminate for students needing considerable remedial work before entering course work in an academic setting.

Determining Entry Degree Level

Another goal of this study was to determine how well the ACT could discriminate among various levels of degree placement for students entering NTID. Students can be placed into five degree levels depending on their academic preparation: Bachelor of Science, Associate of Applied Science, Associate of Occupational Studies, Diploma, and Preparatory studies. Students entering in 1998 and 1999 were placed in these levels without using the ACT scores. This permitted researchers to evaluate the ability of the ACT in discriminating among these five levels. Mean composite ACT

Table 6

Mean ACT composite scores by entry degree level for new 1997 NTID students.

Degree Level	Mean	95% Confidence
Bachelor	21.8	21.1 to 22.5
Sub-bachelor		
AAS	17.6	16.2 to 18.9
AOS	15.0	14.5 to 15.5
Diploma	13.8	13.2 to 14.5
Preparatory	14.1	13.4 to 14.8

scores for each entry degree level are displayed in Table 6.

The ACT generally yielded distinctly separate means for four of the five entry placements. Statistical tests indicate that there are significant differences for mean ACT scores between Preparatory/Diploma, AOS, AAS, and Bachelor level students. It is also noteworthy that there is little overlap among the levels of degree placement. These results indicate that the ACT can be used for counseling students concerning the level of degree outcomes they can expect, given their level of performance on the ACT.

Summary of Findings

This paper has reported on studies conducted at NTID concerning use of the American College Test (ACT) for accepting students and placing them into programs of study. The results indicate that the ACT is a useful test for assisting with admission and placement of deaf and hard-of-hearing students at the postsecondary level. The following are some key findings documented in these studies.

Normative information. Deaf students being tested under special conditions perform significantly less well than deaf and hard-of-hearing students tested under regular conditions. Students entering NTID have score distributions similar to the national group of deaf and hard-of-hearing students tested under special conditions. In addition, it appears that the ACT can accurately discriminate between

students who fully meet NTID academic admission criteria and those who need developmental instruction before entering a program of study.

Relationship with other measures. The findings indicate that the ACT subtests are correlated with other measures of academic skills administered at NTID and used for placement into remedial courses. The findings indicate the mathematics test correlates very highly with independent placements, while the tests of reading and English appear to not be useful with students scoring on the low end of the ACT distribution between 10 and 14. Caution must be exercised in using the ACT results for making placement decisions with such students.

Determination of entry degree level. The analyses indicated that the ACT discriminated among students at four of five-degree levels at NTID. It was not able to distinguish among students placed at the diploma and preparatory level. This finding may be due to the fact that students placed at the preparatory and diploma levels have English language skill levels that are below the level that the ACT was designed to assess. Despite this inability, the ACT certainly can be used for determining which students need remedial help, those who are ready to begin some academic studies, and those who can become fully matriculated at the college level. Generally, our findings indicate, based on independent testing, that normative information presented by ACT seems to apply equally to deaf and hard-of-hearing students entering NTID.

End Note

1. For more information the reader is referred to ACT's *Educational Planning and Assessment System*, Standards for Transition, P.O. Box 168, Iowa City, IA 52243-0168, (319) 337-1040.

Section VII
Program Development

Creating WIN/WIN Situations: Innovative Management of Interpreter Services at a Mid-Sized University

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Abstract

The University of Minnesota Duluth (UMD) has experimented with creatively managing their interpreting staff using a "WIN/WIN" strategy. "WIN/WIN" stands for What Interpreters Need/ What Institutions Need to provide quality services to Deaf, Hard of Hearing and DeafBlind students. This workshop compared the needs of the institution with the needs of the interpreter and explored how to create a "WIN/WIN" program. Particular focus was given to scheduling needs, resources and collaboration, interpreter wellness, and professionalism. The story of the University of Minnesota Duluth's program development was told and time was given for questions and situational discussions.

Win/Win Definitions

WIN/WIN stands for "What Institutions Need/ What Interpreters Need." This approach examines the administrative and legal needs of the institution with the employment and working condition needs of the interpreters. This leads to a more balanced and mutually respectful plan for interpreting service provision. At the University of Minnesota Duluth this approach has been implemented in interpreter management with apparent success as measured by administrator interviews, interpreter retention rates and job satisfaction ratings. A WIN/WIN approach will positively enhance the campus environment and foster a sense of inclusion and respect.

Institutional/Administrative Needs

Local administrators were interviewed, and interview results indicated that issues were grouped into three major areas: legal requirements, cost factors, and operating processes.

Legal Issues
Administrators were unanimous in their need to have experts available for consultation. Depending on the campus community size, this need could be met by in-house staff or by experts at other colleges or community agencies. Most administrators had no issue with the fundamental legal requirement to provide interpreting services to students who are deaf. Interestingly, the notion of reasonable accommodation was interpreted in different manners at different levels of administration. Administrators who work closer with the day to day operations saw this as being very student oriented. That is, their frustrations had more to do with the determination of reasonable-ness with student behavior factored in (timeliness of requests, students' understanding of accommodation, etc.).

Cost Factors
Controlling and predicting interpreter costs was high on the list of concerns for many administra-

tors. At a higher administrative level, "reasonable" often became synonymous with cost. Frustration came in the need to balance the financial needs of several programs under their administrative responsibility. Again, some administrators equate reasonable-ness with the actual budget liability. Another issue among administrators is to have open communication with disability service staff. They felt it is vital to have a consistent reporting system so that administrators may be informed of accommodation needs, alternatives, and options. An "early warning system" for interpreter cost increases would be appreciated by administrators. While the interviewees generally understood that interpreter costs estimates can change rapidly and radically, they felt that whatever level of predictability (or warning) the disability service office could provide would be valuable to avoid surprises and the hostility that may result.

Operating Processes
Most administrators were supportive of staff interpreters and wanted to look at ways to make them more involved in their greater campus community. Again middle-level administrators, who operated closer to interpreters on a daily basis, saw having staff interpreters as a great benefit to the campus community. Those who had worked with both staff and freelance or contract interpreters believed that staff interpreters brought increased consistency, reliability, and interpreting skill specific to the postsecondary level. Professional staffing was seen as important: having the right people in the right jobs. Administrators also expressed concern about assuring that policies and procedures for students were fair and equitable and that staff policies and procedures for interpreting staff also were consistent and fair.

Interpreter Needs

Interpreter Needs were evaluated by distributing a survey to past and present staff interpreters. Their responses indicated several areas of interest. They were grouped into the following headings: Professionalism and Working Conditions.

Professionalism
The issues with regard to Professionalism fell into three main categories: salary and benefits, Professional Recognition, and Professional Development.

Salary and Benefits
The issue of salary and benefits was of great concern to most interpreters. It was important to interpreters to be offered fair and equitable rates of pay, consistent with the regional market value of interpreter services. In order for a skilled interpreter to accept an interpreting position in a college setting, the salary and benefits package must be a significant motivator.

Professional Recognition
Appropriate recognition of staff interpreters was also seen as important to the interpreters surveyed. Staff interpreters in postsecondary settings need to be recognized as professionals. They are service providers who work in a team setting, providing communication access so that faculty and student can interact and continue toward their educational objectives. Staff interpreters are also members of the larger campus community and should be so recognized. Almost all employees at post-secondary institutions have some interaction with the larger campus community. Interpreters interact with the campus community in many ways, some which involve providing service to students and some which don't. With longevity of a staff interpreter position comes familiarity, respect, and recognition of the interpreter as a professional providing valuable service not only to deaf students, but also to the entire campus community.

Professional Development
Professional development was another priority for staff interpreters at the post-secondary level. Interpreters felt the need for on-going opportunities to continue to improve their interpreting skill, so that they could provide better service to students. Support for staff interpreters pursuing certification was also deemed important for those surveyed. Professional development did not have to be limited to specific interpreting topics. Staff interpreters felt that many types of professional development proved beneficial to their job performance. Computer training, training in other useful technologies and workshops on human relations, organization, and many other topics presented regularly by university personnel were helpful. To summarize, with regard to professionalism, a post-secondary level staff interpreter position should minimally provide a living wage, a professional level of recognition, and a setting that is conducive to professional growth.

Working Conditions
The three areas of significant concern to respondents were the following: Scheduling, Appropriate and Clear Expectations, and a Healthy Working Environment.

Scheduling
Many staff interpreters preferred a 75% time benefited appointment, which allowed them more options if the interpreter wanted to limit actual interpreting hours or to add interpreting variety through freelancing. UMD interpreters appreciate an open and flexible schedule, which allows for unusual scheduling needs. For example, an interpreter who has a 75% time contract may not work strictly six-hour days, five days a week. They may have a night class one evening and only work three hours another day. Or, they may only work four days or perhaps a split shift, which allows time in the middle of the day to focus on other chosen obligations. It is important to look at the total scheduling needs of the program and the interpreter, not simply the classroom hours. Prep time, breaks, passing time, required paper work, and other miscellaneous duties may also take quite a scheduling toll. The goal is to provide a fair and reasonable schedule, as this will also improve retention of staff interpreters. Strategies must also be found for the unpredictable probability that schedules will change and workloads may vary significantly, even from week to week. Collaborations, special projects, additional duties, and professional development are all possible strategies to handle a reduction in workload. When an unpredicted increase in workload occurs, the institution could offer to augment a 75% interpreters' contract to 100% time, offer an apprentice program to newer ITP grads to work with a staff interpreter, hire more hourly interpreters, or look at schedule changes for students.

Appropriate and Clear Expectations
Communication was of vital importance to the interpreters surveyed. Beginning with the point of hire, interpreter candidates must be fully aware of the nature of the work and the working environment. If the schedule changes quarterly, by semester, or even by month, it must be clearly explained. If interpreters will be expected to work some evenings, weekends, or split shifts, this must be right out on the table. After hire, on-going communication is important. Regular staff meetings and a clear chain of command were helpful for staff interpreters to be able to discuss working issues and confidently take these issues to the appropriate person or place. Staff interpreters unanimously stated that a high priority was that their supervisor truly understood the interpreters working environment and process and was competent to support their work and handle the difficult issues as they arose.

Healthy Working Environment
Of vital importance to working interpreters is the notion of a pro-actively healthy work environment—not simply a workplace free of physical hazards, but one which actively enhances health and wellness. Two years ago, the UMD Access Center began to implement an innovative program for the interpreting staff called "Interpreter Wellness Program." This program, in collaboration with the on-campus Department of Life-Fitness, provides staff interpreters with a variety of services and opportunities to help them maintain their personal and professional health. Included in this program were several workshops provided to the interpreting staff on issues related to on-the-job wellness for interpreters. Topics included nutrition, stress reduction, stretching and relaxation, prevention of RMIs, and fitness. Staff interpreters were provided with facility passes for the sports complex and were allowed three scheduled sessions with a personal trainer. In addition, they were allowed to use up to 2.25 hours per week of paid work time to be in some kind of fitness/wellness activity.

Another issue, which reflects a commitment to a healthy workplace, is the departmental policy on leaves of absence. Recognizing that all staff, interpreters included, have a real life outside of their workplace and supporting the employee in their real life can be an immeasurable boost to staff retention. When an interpreter needs a leave of absence for health, personal, educational or parental reasons, every effort should be made to allow such a leave. Attitude of the supervisor or co-workers can also have a great impact in this situation. A leave given reluctantly, even to the point of instilling needless guilt for the employee, will be of little value in retaining a good interpreter employee.

History and Development of the UMD Program

About the University of Minnesota, Duluth
Duluth, Minnesota is a city of 89,000 located on the shores of Lake Superior, approximately 150 miles from the nearest major metropolitan area, the Twin Cities of Minneapolis and St. Paul. The closest Interpreter Training Programs are located in the Twin Cities. It can be a challenge to recruit and retain qualified interpreters for both the freelance and educational settings in this semi-rural area.

The University of Minnesota Duluth (UMD) has an enrollment of 8,000 students and the number of Deaf, Hard of Hearing and DeafBlind students enrolled ranges from 2-20. Deaf, Hard of Hearing and DeafBlind students enrolled at UMD are served through the UMD Access Center. Currently in the Deaf, Hard of Hearing and DeafBlind program, UMD employs four staff interpreters on 75% time, nine month benefited contracts; four part-time, hourly interpreters with no benefits; and one coordinator on a 75% time, twelve month contract.

The Early Years:
The program began in 1987 when three deaf students enrolled part-time at UMD, and a coordinator was hired for the program. The coordinator position at this time was more akin to a lead interpreter/student counselor. The position was half time, ten months. Other interpreters were hired on an hourly, basis. In 1989 the first benefited interpreter staff position was approved, and an interpreter was hired at 75%, nine-month basis.

The first years of the program were characterized by:

1. Significant time devoted to scheduling due to predominantly hourly (staff or freelance) interpreters.
2. Developing program policies and procedure,s including an interpreter and a student handbook.
3. Educating faculty via instructor letters and info sheets.
4. Advocating for staff positions for interpreters.
5. Counseling/advising students.
6. Learning the ropes of the job.

The learning curve was quite steep during those first few years! Among the things learned early on were:

1. Conflict of interest arose with the coordinator assuming a regular interpreting schedule. Instructor and students alike were confused by the role ambiguity.
2. Policies and procedures had to be equitable for all students – and let the chips fall where they may.
3. Faculty became supportive with consistency of quality service and a minimum of material to read.
4. Life would be much happier for everyone if UMD had staff interpreters!

When the UMD administration was convinced that the University would benefit from staff interpreters, the next challenge was how to hire wisely.

A strategy was designed for hiring interpreting staff. This strategy focused on these key questions:

1. What's the target market?
2. What do interpreters want and need from a job?
3. What does UMD need from staff interpreters?

In short, this was the beginning of the "WIN/WIN" approach to interpreter management!

With these guiding questions in mind, the UMD Access Center was able to build a program that has provided many students with fair, high quality, and consistent interpreting services and has provided to interpreters a healthy, interesting, fair, and flexible work environment. Retention rates for staff interpreters at UMD are quite high. Several UMD interpreters have been employed for more than ten years with the UMD Access Center.

Moving On...Current Issues
While UMD has a solid history in providing quality service to students and quality working environments to interpreters, there are always new challenges on the horizon. UMD now faces many challenges for interpreters and the program. As workloads change and staff levels remain stable, opportunities for collaborations

with other post-secondary institutions arise. Efficiently managing services across institutions becomes a new challenge. Professional development for interpreters continues to be important, and funding sources need to be identified. Support for staff to pursue certification, mentorships, or other training, such as cued speech training, will also become a need.

At the University of Minnesota Duluth, the Access Center will continue to look beyond traditional management strategies to implement innovative concepts in service management.

UMD Access Center Program For Deaf, Hard of Hearing and Deaf/Blind Students, 1987-2000

YEAR	TOTAL	DEAF/ SIGN	DEAF BLIND	STAFF	I HOURS	I/N HOURS	TOTAL # COURSES	STAFF/HRLY INT NUMBER	HIGHLIGHTS
1987-88	3	3	0	0	NC	NC	NC	H-2	Coordinator/counselor/interpreter hired at 50% time,10-months
1988-89	4	4	0	0	2330	NC	NC	H-4	Developed policy handbooks for interpreters and students
1989-90	6	5	1	0	2898	204/39	NC	1/3**	First benefited interpreter staff position
1990-91	10	7/1*	1	0	3315	246/1417	NC	3/1	Formal notetaking program established, interpreter staffing increases, apprentice interpreter program
1991-92	6	5/1*	1	0	2232	150/420	NC	3/1	Program name change from Hearing Impaired to Deaf/Hard of Hearing
1992-93	10	5	1	0	2273	150/783	NC	3/1** (3)	Lotsa LOAs this year!
1993-94	16	8	1	3	3681	24/1775	63	3/5**	Coordinator position becomes 75%, 12-month
1994-95	14	5	1	2	2784	0	46	3/5**	Program Initiatives
1995-96	14	4	1	0	1392	0	34	3/5**	Interpreters get private office space
1996-97	11	6	2	0	1841	0	29	2/5/2	Interpreter Wellness program proposed
1997-98	9	4	2	0	1794	0	39	3/4	Interpreter Wellness program implemented
1998-99	16	10	2	1	3991	0	67	4/4** (2)	Very "fluid" interpreter scheduling
1999-00 Semesters	13	5/3*	2	1	2121(F) 4000(E)	0	35/16 51 Total	5I Total	4/4 First year under semesters; Interpreter Wellness continuing

*Collaboration with other colleges during this year

**Staff LOA during this year

NC not counted

Soliciting and Utilizing Interpreter Feedback in Postsecondary Student Services

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Abstract

This paper defines feedback by its relation to growth and change. Ways of responding to feedback include acknowledgment, review, planning, action and rest. Traditional and non-traditional strategies for soliciting and utilizing interpreter feedback are illustrated with real-life examples. Steps for creating feedback tools are also presented, as well as ethical, philosophical and practical considerations.

Personal, professional and programmatic development cannot occur without feedback. Yet for many postsecondary interpreters or student service providers, current methods for soliciting feedback may not be gathering the information that is really needed for effective service delivery. This paper will define feedback through its relation to growth and change and will include theoretical and practical considerations for designing more effective feedback tools, especially in relation to postsecondary interpreting programs.

Defining and Understanding Feedback: A Cycle

What is feedback? The Merriam-Webster dictionary defines it as a "response especially to one in authority about an activity or policy" (1989, p.277). Yet feedback is really much more than that. Feedback can encourage the status quo, lead to changes in a program, and empower consumers. It can be appreciated, ignored, celebrated and dreaded. Everyone intuitively knows what feedback is, but a complete definition is elusive.

One way to understand feedback is through its relation to change. Figure One shows a cycle of change and feedback, as it applies to individuals, small groups, departments, or any working unit. Movement within the chart happens along the bold lines with continuous movement between Acknowledgment, Review, Planning, Action and Rest. Movement may involve long-term circling around one part of the cycle and then rapid change through three other sections; there is never a set pattern, and there are no timelines. Brief acknowledgment of feedback may take a few seconds, or feedback may trigger a system-wide review which requires years to complete. There are four ways to categorize our responses to feedback: Acknowledgment, Review, Action, and Planning.

Acknowledgment is the most simplistic response and usually does not involve a great deal of energy or effort. Acknowledgment may be a basic "thank you" or a simple acknowledgment of the feedback itself (e.g. "We received your response to our survey"). It may be delegating someone else to handle the feedback or a complete lack of response under the implicit belief that someone else will follow up. Acknowledgment recognizes that feedback has occurred but does not make an effort to respond in any significant way.

Review is an evaluation or analysis of whatever triggered the feedback. This may involve examining the "big picture" versus details of a program or policy. It might be an evaluation or study. Another way to review is to examine short- or long-term trends, to see whether changes have already occurred. For individuals, "review" may incorporate mentoring or other professional development opportunities, providing a way to review skills, ethics, education, etc.

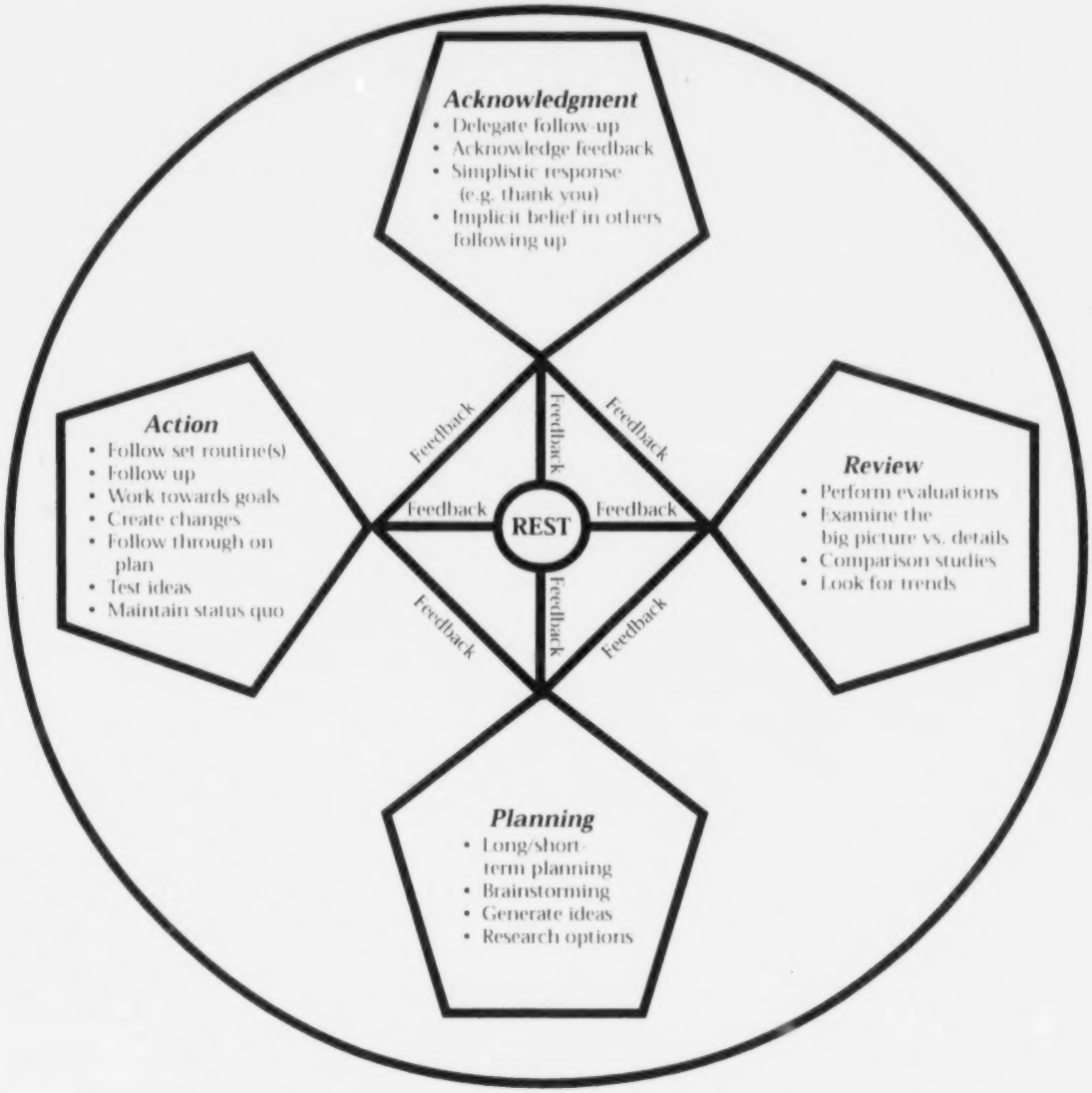
Planning is a third response to feedback and may be short-term or long-term. Planning helps groups find and choose options for follow-up in response to feedback (but does not necessarily lead to any action itself). Planning also includes brain-

Figure 1

A Cycle of Change and Feedback

Working with Feedback:

- Individuals and groups can be anywhere on the cycle at any time. There is no set pattern.
- Feedback (informal or formal) may happen at any time.
- There is no time frame for any of these cycles.
- More power means more access to various parts of the cycle
- This cycle applies to each level of organizations (individual, departmental, systemic, societal, etc.
- Change (for better or worse) happens when movement happens within the cycle. Disconnecting from the cycle is to literally pull "out of the loop."



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storming, generating ideas and researching options. Individuals may use journaling, career counseling, performance reviews and goal-setting, whereas groups may use retreats, inservices, or other strategic planning methods.

Action is when decisions of some kind are made and actions are taken. Action may lead to change, movement towards goals or the testing of ideas. It could create changes or follow-up. It is important to remember that maintaining the status quo is also an action and a response to feedback. Moving ahead or keeping things the same are both conscious choices.

The center of the figure is a circle labeled ***Rest***. Constant feedback and/or change may lead to burn-out or low morale. To rest is to remain in the cycle of change and growth but to acknowledge that a break of some kind is needed. Rest may be on an individual level (e.g. taking a walk during lunch or a much-needed vacation) or on a group level (e.g. having a retreat, doing something "fun," putting a hold on a project). People do not "pull out of the loop" unless they disconnect entirely from change and growth, leaving the cycle altogether by isolating themselves or actually leaving their job. Higher education needs dedicated and energized people; only people who take care of themselves will be able to continue making much-needed contributions.

In this way, the cycle of change and feedback may be a theoretical tool, but it is also a practical one. The more power a person has, the more access they will have to various aspects of the cycle; consciously understanding responses to feedback can ultimately empower those who are giving the feedback as well as those receiving it. For example, if interpreters are only "allowed" access to planning, but administrators never allow action, that can ultimately create disillusionment or frustration. If students are allowed any participation in the cycle, the feedback and follow-up may be more accurate and far more enthusiastic than if they are only allowed to fill out a form and never see their contribution or the "big picture" of an interpreting program. Feedback itself can become a response to programming but also a deliberate tool for change and growth.

Designing Feedback Tools

At the PEPNet Conference, participants were asked to discuss current methods for soliciting feedback about interpreters. All schools represented were relying heavily on a "Student Feedback Form" in one form or another. Yet there are many other potential sources of information which may be just as useful, if not better.

When designing feedback tools, the basic who, what, why, when, where and how questions may be helpful. Who is working with interpreters? What are they saying, doing, experiencing? Why would they have useful feedback? When and where could they offer feedback? How could they offer it (what is the best method to get their opinion)? Designing feedback tools in a deliberate way may ultimately help bring a team together and align the visions of consumers, interpreters, and administrators.

Some ethical and philosophical issues may arise when an individual or department is soliciting feedback. In-house confidentiality policies and the RID Code of Ethics must all be considered so the privacy of students and staff are protected. Staff and interpreters must also consider any power differentials in soliciting feedback: Will the feedback be mandatory? Is it the student's responsibility to provide this specific kind of feedback to interpreters? Will students be given information about any follow-up to the feedback or changes made to the program? Also consider how conflicts will be handled if feedback leads to disagreement or a grievance: is there a grievance policy, could interpreters' jobs be in jeopardy if negative feedback comes forward, or will the privacy of students be protected if they give feedback to administrators? Considering ethics and philosophy before and during the development of feedback tools can help develop some agreement about how feedback will be handled.

Of course, every postsecondary interpreting unit has the experience of trying to solicit feedback and being met with a resounding silence. Theories, models and philosophies are only helpful if they are also practical. Staff need to consider their own resources of money, time, and staff. If a department has few resources, then elaborate feedback tools will be difficult to use. Also, consider the variety of students in most postsecondary settings, because the motivation for providing feedback may vary considerably. Freshmen may want something social; where, for example, groups of deaf students can work together and get free pizza. Commuter students may appreciate a postcard or web-based evaluation form that can be completed quickly at home. The

students themselves may not only vary in motivation, but also in their ability to provide feedback of any kind. An eighteen year old freshman will have a very different perspective than a 50-year old commuter student or a deaf faculty member. Keeping their perspectives in mind will help interpreting staff develop a more versatile and useful feedback tool.

Theory Meets Real Life: Practical Strategies

Below are some steps for implementing effective feedback tools that solicit feedback and also utilize it effectively. Some of these methods are more traditional (e.g. interpreter evaluation forms), and some are more "non-traditional" (e.g. focus groups). This information may be used by individual interpreters or staff members or by departments.

When creating a feedback tool or dealing with feedback that has already been given, here are a few helpful steps based on "The Spiral Model" by the Doris Marshall Institute (Bradley, Fiorello and Smith, 1999):

1. *State what is happening* (the situation or the issue that has been brought forward) or the information needed.
2. *What are some perspectives on this?* Consider administrators, interpreters, students, and past students. Is the "big picture" available?
3. *What is missing?* Consider what other information or details would be helpful and who might be able to provide it. Consider other resources as well, such as other colleges, PEPNet, community interpreter referral agencies, or other on-campus departments.
4. *Brainstorm about possible short and long-term goals.* What can realistically be accomplished in one month? A year? Five years?
5. *Select priorities and create a plan for soliciting the information* that includes a timeline and reflection or evaluation components (i.e. ways to measure success or know when goals have been achieved and ways for people to give opinions about the process).
6. *Create a plan for utilizing collected information.* How will the results be shared? Who will have access to the information? Which policies or programs may be affected by this information?
7. *Begin implementing the plan.*

For example, most interpreter feedback forms evaluate interpreter skills and ethics, while providing information about the interpreting program (i.e. policies and procedures) and student preferences. Figure Two lists some other ways to solicit the same information. Some of these may be more effective than a simple interpreter evaluation form; others may complement the evaluation form and provide more detailed information. Notice that students are not always the best people to provide a specific kind of feedback; interpreting staff, deaf employees, alumni, and community members may provide a new and important point of view. Figure Two is a model of how any feedback tool can be used in a variety of ways and how important it is to understand the exact information that needs to be collected.

After collecting the feedback, it is important to utilize it in some way. It may be used to make policy or program changes, or it may become part of a report that is disseminated formally or informally. Other options are to form work groups around an important issue, create a display board for students, add the information to a web site, or design some programming for students or interpreters. Using feedback effectively not only strengthens a program, but it also encourages further feedback by showing respect and purpose for the opinions offered.

When this paper was presented at PEPNet, I shared a video made by the University of Minnesota for the 1999 Postsecondary Interpreting Network (PIN) conference (Van Nostrand and Harbour, 1999). The video contains clips from interviews with postsecondary students, alumni, and even deaf children who discuss their dreams for college. Some of the opinions contradict each other, some of them are very personal, and some have broader applications; a few students are humorous, and are few are serious or even angry. The video, however, caused some interpreters at the University of Minnesota to see their job in a different light or to appreciate the changes that

Figure Two: Using an Interpreter Evaluation Form to Create Other Options for Soliciting Feedback.

Below are the four major topics usually addressed on an interpreter feedback form. Under these categories are listed a variety of ideas for soliciting similar feedback.

Skills Assessment

- Perform one-to-one observation of working interpreters by supervisors
- Encourage peer mentoring among interpreters
- Develop self-assessment tools for interpreters to monitor their own performance
- Create interpreter "portfolios" that document interpreters personal and professional accomplishments
- Solicit feedback from non-student consumers (e.g. faculty, alumni, community members)

Ethics Assessment

- Establish regular "case consults" where interpreters have an opportunity to discuss difficult ethical situations
- Create case studies illustrating various professional dilemmas and practice with ethical problem-solving
- Plan retreats or inservices focusing on ethics, where interpreters have an opportunity to discuss difficult situations and offer ideas

Feedback about Policies and Programs

- Ask interpreters to evaluate their supervisor and/or programming
- Hire an external program evaluator
- Collect historical data about the interpreting program (past vs. present)
- Create an advisory board that includes interpreters and students

Information about Individual Student Preferences

- Conduct one-to-one interviews with each student, asking for feedback and preferences
- Create student focus groups
- Develop different feedback tools for different consumers (e.g. deaf staff and faculty, undergraduates, graduate students, commuter students)
- Set up an electronic listserv and encourage discussion on-line about preferences and suggestions for working with college interpreters
- Plan fall "interpreter orientations" with incoming deaf students to learn about their preferences and expectations for college interpreters

have been made at the University over the past few decades. It also led to a more general appreciation for the diversity of deaf students in higher education. Until we started interviewing students on videotape, we had never fully appreciated how useful one-to-one interviews could be and how much the students wanted to share their ideas.

This is what feedback is really about: giving everyone an opportunity to be heard and developing ways to make services more effective. Combining models and theories with real-life experiences can lead to change on individual, departmental, or campus-wide levels. In this way, soliciting and utilizing feedback becomes an important part of service provision and a powerful tool for postsecondary student services.

References

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Merriam-Webster, Inc. (1989). *The new Merriam-Webster dictionary*. Springfield, MA: Merriam-Webster, Inc.

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Successfully Coping with Interpreter Shortages

Lauren M.B. Kinast,
Jim Vincent
San Diego Community College District

Abstract

Providing accommodations to Deaf and hard of hearing students in postsecondary education is an on-going challenge. Faced with a shortage of interpreters in the 1998-1999 academic year, the San Diego Community College District took a number of steps aimed at increasing the number of interpreters available and reducing the negative impact of the shortage. Additionally, three Office of Civil Rights (OCR) complaints were filed in the Spring of 1999 related to interpreting services. The OCR findings and process will be reviewed. The importance of a collaborative approach between students, administrators, DSPS staff, and interpreters will be emphasized.

Introduction

A discussion regarding the supply and demand of interpreting services will be covered. This presentation will provide some helpful 'tips' that pertain to your institutional needs to allow you ways of alleviating shortages of interpreters. While we cover 'alternate' options, the issues discussed, in addition to the forms attached for review are items for which OCR gave us their 'stamp of approval.'

Your institution's goal: to be able to follow a 'goal' for your program, you need to clearly develop a goal that is for students, interpreters, and all parties involved when providing services. Without a goal, you are unable to strive towards something for accomplishment. For example, our institution's goal is:

> To provide consistently high quality interpreting and captioning services.

Having a goal allows you to understand the purpose behind it through the provision of services and how you want it to affect the involved parties. It gives the department 'an expectation' to meet and an expectation to which they feel obligated.

Outside Experts

We asked WROCC to come and do a program review of our institution's interpreting services department. We also included the ADA/Section 504 Officer to participate with the revision of forms, policies, and procedures.

Communication

Communication is a key factor involved in successfully providing services. Some of the people you need to communicate with are:

- Interpreters
- Counselors
- Students
- Faculty/Staff

Interpreter Involvement

Recruiting interpreters is almost always something we pursue. Your current staff is almost always the source of 'PR' that goes around in the community. Therefore, work closely with your current staff, address concerns or issues, and reward them - they in turn will provide 'positive' recruitment possibilities!

Incentives

While we may offer a variety of incentives, we continue to strive more to fit the needs of today's interpreters. A list of the following incentives are ways you can prolong your pool of interpreters' interest in staying with your institution:

Guaranteed Hours—provide those only with higher levels and most available schedules to accommodate your needs. In return they will receive guaranteed hours which shows they are of 'higher priority' as well.

Prep Time—we expect our interpreters to go into a class/assignment – READY! Build in prep time in their schedule, depending on the type of course load they have. It shows you want them to do their job prepared, which becomes 'high quality' services provided.

Professional Development—just like many counselors, supervisors/managers, clerical staff, faculty, etc., interpreters attend professional development opportunities/conferences during their working hours; therefore, they should be paid to attend them as well. If they want to obtain CEUs, then they need to cover those costs themselves.

Scheduling Options—Give them their 'choices' of classes they'd like to interpret, schedule by priority, and try to work around their preferred schedule.

- Materials/Books – Provide materials and books needed for their assignments; this is also used in addition to Prep Time to help them become familiar with 'tomorrow's' assignments, and be prepared. We also have a 'office/lounge' for them, storage for their books, tv/vcr for video practice/prep, etc.
- Parking/Mileage – Give them STAFF parking privileges, mileage to and from other sites, and field trips. Give them staff parking because you want them to arrive to their assignments relaxed, not late or frustrated due to the overcrowded student parking, if you treat yourself as staff – they should be treated with the same privilege!
- Teams—we provide teams for classes of 50 minutes or more, depending on the class (lab, low demand, etc). You will prevent injuries and burnout, and quality as well as support are better due to the relief time they have in team situations.
- Mentoring—self explanatory, depending on your program size, abilities; check with them to see what type of mentoring program they'd like. This shows you want to see their skills enhanced, you are providing 'evaluations' through this use!
- Monthly Meetings—Keep staff informed of things (big or small), and make them feel important!
- Pagers—provide pagers to those with 20 hours or more, and open schedules to allow you to use them for sub assignments, adhocs, special requests. Save yourself the trouble of calling a dozen answering machines! You will get a faster response and confirmation from them!

Advertise

Advertise for any interpreting position throughall means of publications possible! Don't narrow your areas! Some of the places we advertised in were: Registry of Interpreters for the Deaf, Views Newsletter, local chapters; local organizations and affiliations; college ITP; community; and networking Groups.

Handbook Policies & Procedures

When developing handbooks for interpreters, include them in this process, because they are 'on the job' and can provide valuable input. This is also a way of 'recognizing' their importance with the institution—the administration or other departments that create the handbook do not always create them from an interpreter's perspective or role.

- Developed policies which included input from interpreters on staff.
- Covered the handbook during staff meetings to ensure all were up to date on policy changes or new procedures.
- Obtained input on developing a standard protocol for assigning interpreters into classes appropriately.

Skill Development Opportunities

We provide skill development workshops on a frequent basis. One of the ways to determine what types of workshops is through a survey from your interpreters regarding what they'd like. One of the incentives we discussed earlier

was that we provide these workshops, and we PAY them to attend—the idea is to align with interpreters just like with any other staff professional who are often 'required' or encouraged to attend professional development workshops/seminars.

- Prior to each semester, offer three days of skill development workshops related to interpreting, and pay hourly interpreters for attendance.
- Offer one workshop 'mid-semester' that is open to all interpreters within post-secondary interpreting experiences.
- Staff development—Allow interpreters to meet each other and see who they will work with (as a team) by providing an informal gathering (ie: BBQ)

Collaboration with ITP

Many ITPs require some type of field work/intern hours completed—this is an intimidating experience for anyone new to this field! Staff interpreters are a good source of those facing 'reality!' and can help alleviate the fears ITP students may have. Getting the most experience from their field work is through actual professionals!

- Provides 'pillar' of support for incoming/newcomers getting into the interpreting field.
- Establish connections with future potential interpreters to work for the District and already have some type of 'rapport' with them beforehand.
- Experience/expertise given to new interpreters, and benefits as well as further fulfills the Deaf Community needs.

Establish Criterion:

To determine interpreter assignments if/when a shortage exists:

1. Assign priority by date of request for interpreting services.
2. When different sessions of the same class are offered, provide incentives for students to voluntarily group in the same class session.
3. Designate specific sections of high demand courses districtwide which are guaranteed to have an assigned sign language interpreter.
4. The establishment of an English class for Deaf students taught by an instructor fluent in ASL.
5. Explore accommodations that might serve as an alternative to the District's almost exclusive reliance on sign language interpreters to accommodate Deaf students.
6. When allocating sign language interpreters, prioritize academic courses over non academic courses, such as physical education (unless it is vocationally related).

To determine whether a Deaf student in a particular class will be assigned real-time captioning:

1. The class is offered at an impacted time.
2. The course has a prerequisite or advisory reading skill level of 5.
3. The course is primarily lecture.

Counselor Involvement

- Regular ISO/Counselor Meetings—keep each other informed of students concerns, and issues and address them immediately. You want to avoid 'surprises'
- Email communication—we all have busy schedules, and we try to meet with students, faculty, staff, etc. There is no reason you can't email each other with even 'not so urgent' information.
- Meet with students and counselors regarding their services and/or concerns—if you have tried to work with the student on the provision of their services, often times a meeting with their counselor in addition will allow you to address other options. Counselors may also have additional input that correspond with students' services.

Faculty/Staff Involvement

- Provide notices too faculty regarding a Deaf student using interpreting or Real-time Captioning (RTC) services in their class. We developed a 'letter/notice' that includes students' names and which class, brief tips, etc.

• Develop a pamphlet for instructors to obtain a quick overview of how the services work and tips on working with them. The pamphlet should be designed for instructors and include information on the interpreters' roles, tips on utilizing them efficiently, why there are two (team), what to do if the interpreter does not show up, and a fingerspelling chart. Keep this simple and to the point, instructors often don't read pages of literature.
• Offer a workshop during Flex/In Staff Day to cover interpreting and RTC Services. Provide a workshop to allow instructors get a first-hand idea of what it is like having an interpreter in the classroom by having an actual team of interpreters interpreting the workshop; have a demonstration of RTC.

Managing Demand

This section of our presentation deals specifically with what steps were taken to minimize the adverse impacts of interpreter shortages. The most significant measure that can be taken is to communicate *frequently* with students and others in your college(s).

Identify stakeholders

An essential step in coping effectively with the demand for interpreters is to identify those constituencies who have an interest in this area. Clearly Deaf and hard of hearing students are of utmost importance. While these students are the "consumers" of these services it is critical that frequent and open communication also occur with the following people:

- Interpreters
- Counselors working with Deaf/hard of hearing students
- Instructional Faculty
- DSPS Coordinator
- Administrators
- Deaf Community

A team approach

In the San Diego Community College District DSPS counselors work directly with Deaf students to determine class schedules. In order to keep counselors fully informed, we found it essential to have regular meetings between DSPS counselors and Interpreting Services Office (ISO) personnel. These meetings facilitated the timely and accurate sharing of information regarding upcoming deadlines, problem identification and problem solving, updated information on interpreter supply and demand, and joint planning on communications with students. By keeping counselors thoroughly updated, they could in turn share accurate information with students, thereby helping students make informed decisions as to what classes to register for each term.

Communications with students

Examples are attached (see appendices) of letters that were sent from the ISO approximately two weeks before the beginning of priority registration, encouraging students to take advantage of early registration. Additionally, an extensive orientation program for new and returning Deaf students was held before the beginning of the fall semester at which interpreting services information was shared and discussed.

An integral part of the orientation program was exposure to real-time-captioning (RTC) technology. A captionist was present at the orientation to interpreting service,s and students had the opportunity to have hands-on use of this technology and understand its advantages and limitations. At the orientation program students were also educated about their rights and responsibilities under ADA as well as informed about the Office of Civil Rights decisions.

Letters were also sent out by DSPS counselors regarding registration, and these too are attached. An essential part of these letters was information to the students regarding grouping. Students were informed in these letters about which classes were already assigned an interpreter and were encouraged to register for these classes if they were appropriate for that student.

Outside Expert

Jeanne M. Kincaid, Esq., an attorney with extensive experience dealing with the ADA and laws relating to students with disabilities, was hired by the District to meet with staff and students regarding the OCR report and its implications. Ms. Kincaid also met with ISO staff and DSPS staff to review policies, procedures, and forms.

Alternative accommodations when interpreters are not available

In order to clearly establish that interpreters are not available, it is necessary to document a diligent search. This means that you must do everything possible to recruit and hire interpreters, including advertising outside of your geographical area, offering competitive wages, contacting local interpreting agencies, etc. It is essential that everything you do with regard to this activity be documented in order to prove that you have done an exhaustive search.

Once you have done an exhaustive search (please note that this search needs to be on-going), and you are at the point where you have a request for interpreting services that you are not able to meet, then you need to document an offer of alternative services, being clear as to what the student must do to obtain these services.

Real-time-captioning is one alternative service that is available. It has been our experience that early in the scheduling/registration process a letter needs to go to students for which RTC may be an alternative and who are registered in classes, informing them of this potential. A copy of this letter is attached. This letter outlines the criteria used to determine the assignment of RTC and indicates that if the ISO is not able to obtain interpreting services then RTC will be provided as an alternate accommodation.

The criteria that the San Diego Community College District has used to determine if a class is appropriate for RTC is as follows:

- The class is offered at an impacted time. (Impacted time is defined as that time when the demand for interpreters exceeds the supply of interpreters.)
- The class has a prerequisite or advisory reading skill level of 5. This is the reading level of the lowest level English class required for matriculation.
- The class is primarily lecture format.

What we've learned and then shared with stakeholders from our experiences with OCR

A. Have a process in place to address interpreter shortages.

To develop this process we did self-evaluations, consulted with outside experts and implemented recommendations from a WROCC review of our interpreting services program.

B. Not all students requesting sign language interpreting services will necessarily receive them. (A common misperception is that ADA "entitles" students to interpreting services. It is our understanding that this is not the case.)

C. The SDCCD also uses the following set of questions to assist in determining where to assign its limited interpreting services:

1. Is this the last course the student needs for graduation?
2. Is this a basic academic course that the student needs in order to succeed in any other course of study?
3. Is this a critical course for the major?
4. Are there several sections of this class offered?
5. Is this course offered anywhere else in the District or at a different time?
6. Is this a course that is offered every semester at a variety of times?
7. Will any alternate times work for the student?
8. Does the subject matter lend itself to the use of RTC?
9. How was the student affected by the shortage of interpreters during the previous semester(s)?

Attachments

Date

Dear

Greetings from Mesa College! I hope you are having an enjoyable summer. All of us at Mesa College are BUSY preparing for August 23, the start of the Fall semester.

In an effort to maximize sign language and real time captioning interpreting services students have been requested to plan their schedules carefully with the assistance of the DSPS Counselor. I will also discuss with you the factors which will be considered if interpreting requests need to be prioritized: date of request for interpreting service; classes with more than one deaf student; designated high demand courses; real time captioning options; etc.

I am concerned because I have not yet heard from you regarding classes for the Fall semester, which begins in 4 weeks. It requires time to set up quality support services (sign language interpreting, notetaking, real time captioning, test proctoring, etc.).

For your convenience, two drop-in-scheduling parties are available:

Tuesday July 27 9:30-noon room H108
Wednesday July 28 11: 30-1 : 30pm room F262

A schedule of classes where sign language or real time captioning interpreting services have already been authorized is posted in the DSPS office room H202. Please take a look at the schedule and consider joining these classes, as appropriate. Some benefits of "grouping" with other deaf students are:

- Save skilled interpreters' time (more time available to interpret other classes).
- You can have a deaf study partner from your class.
- If you are absent, you can get the lecture information from other deaf students.
- Priority for receipt of interpreting services.

I look forward to working closely with you to meet your educational and service needs for the Fall 1999 semester.

Sincerely,

Julie Pludow
DSPS Counselor Specialist

Disabled Students Programs and Services

STUDENT DISCLAIMER

Student Name: _____

I have requested sign-language interpreting or real-time-captioning services for:

_____

Semester Class CRN Days/Time

I have been advised that there is/are _____ other section/s of _____ open and available which have an assigned sign-language interpreter or real-time-captionist. I have chosen to take a different section instead of joining a class with an assigned sign-language interpreter or captionist.

I have been advised that every effort will be made to find a sign-language interpreter or captionist for my requested class, but one **may not** be available for my class.

I have been advised that due to my decision I will need to take advantage of other available support services including a notetaker. I have been advised to talk with my DSPS Counselor to request alternative supportive accommodations as soon as possible.

Student Signature: _____ Date: _____

DSPS Counselor: _____

Disclaimer799.doc

White: Student Yellow: DSPS Counselor

Disabled Students Programs and Services

STUDENT DISCLAIMER -IMPACTED CLASSES

Student Name: _____

I have requested sign-language interpreting or real-time-captioning services for:

_____

Semester Class CRN Days/Time

I have been advised that this is an "impacted" time, meaning that a large number of students have requested sign-language interpreting or real-time-captioning services at this same time.

I have been advised that every effort will be made to find a sign-language interpreter or captionist for my requested class, but one **may not** be available for my class.

I have been advised that due to my decision to request sign-language interpreting or captioning services at an impacted time I will need to take advantage of other available support services including a notetaker. I have been advised to talk with my DSPS Counselor to request alternative supportive accommodations as soon as possible.

Student Signature: _____ Date: _____

DSPS Counselor: _____

Disclaimer-Impacted799.doc

White: Student Yellow: DSPS Counselor

Interpreting Services Office
Mesa College – Room F204d
(858) 627-2993 tty
(858) 627-2481 fax
(858) 627-2944 voice

IMPORTANT!!

Student Name: Date:

You were absent on _____from your ____class and did not call the Interpreting Services Office 24 hours **before** the beginning of your class. It is your responsibility to tell us 24 hours **before** your class starts that you will be absent.

CALL:
(858) 627-2993 (tty) – 24 hour answering machine

_____ **First Notice**

_____ **Second absence without calling in 24 hours before the beginning of your class. Interpreting services are suspended.**
You must meet with your DSPS Counselor to request reinstatement of services.

DSPS Interpreting Services Supervisor

Comments:

White: Student Services Supervisor Yellow: DSPS Counselor Pink: Interpreting

To: Mesa College Deaf Students

From: Julie Pludow, Counselor Specialist
Jennifer Brinkley, Deaf Peer Counselor

Date: November 1999

Re: Spring Registration

Are you ready for this?!?!! Spring Registration!

As you know, priority registration for Spring 2000 semester will begin Monday, November 29. We strongly encourage you to use priority registration so you can register in the classes you want and so you can request DSPS services **EARLY**.

Please make an appointment with your counselor to discuss classes, get questions answered, get help with financial aid forms, plan class schedule, and request services (interpreting, notetaking, real-time captioning, etc.).

In order to maximize interpreting services, we are encouraging you to "group" with other deaf students, when appropriate. Some benefits of "grouping" are:

- Save skilled interpreters' time (they have more available time to interpret other classes)
- You can have a deaf study partner from your class
- If you are absent, you can get the lecture information from other deaf students
- Priority for receipt of interpreting services.

Class schedules were mailed November 15 week. Please use the information below to begin planning your schedules.

Classes with Sign Language Interpreting

CRN	Class	Day	Time	Units	Room	Instructor
81202	English 101	TTh	2-3:30	3	G-115	T. Moran
04813	History 109	MW	11-12:30	3	H-309	T. Valverde
73056	History 151	MWF	11-12	3	H-304	N. Miller
40899	Math 95	MTWThF	1-2	5	H-215	L. Clark
41090	Math 96	MTWThF	12-1	5	K-213	B. Peters
Any	Computer Business Tech	F	12-2	Any	K-405	Any

Classes taught in ASL

CRN	Class	Day	Time	Units	Room	Instructor
40445	College Success 127	MW	1-2:30	3	K-210a	J. Pludow J. Brinkley
71690	English 07	MTWTh	9:30-11	6	I3-401	T. Moran
46373	English 08	MTWTh	9:30-11	6	I3-401	T. Moran
46384	English 09	MTWTh	9:30-11	6	I3-401	T. Moran
46396	English 10	MTWTh	9:30-11	6	I3-401	T. Moran
82792	English 55	MTWTh	11-12	3	I3-401	T. Moran
02000	ASL 101	TTh	1-3	3	F-113	B. Clary
04271	ASL 200	TTh	1-3	3	F-218	Buchannan
05666	ASL 201	MW	5-7	3	F-218	J. Halcott

Please contact your counselor if you have any questions at (858) 277-1968 tty. We look forward to seeing you soon.

Thank you.

August 13, 1999

Jane Doe
5555 Address Way
San Diego, CA 92103

Dear Jane:

You have requested sign-language interpreting services for Political Science 101, Th 6:30p.m.-9:30 p.m., room H-305, Mesa College. This class has been determined to be eligible for real-time-captioning (rtc) services based on criteria listed later in this letter. A major factor in the decision to consider rtc services for this class is that this class occurs at an "impacted time," when the demand for sign-language interpreters is greater than the supply of sign-language interpreters. While we realize this is not your first choice in terms of access to this class we believe that real-time-captioning will provide you access to this class. Additionally, educational experts in education of Deaf students suggest that increased exposure to written English, as provided by rtc, will support Deaf students' learning the increasingly complex vocabulary found in upper level college classes, especially in four year universities and graduate programs.

The following criteria are used to determine if a class is appropriate for rtc services:

- R5 prerequisite or R5 advisory. (This suggests that your advanced level of English reading skills will allow you to benefit from rtc services.)
- The class is primarily lecture.
- The class is offered at an impacted time. A time when the demand for sign language interpreters is greater than the supply of sign language interpreters.

If, as the semester progresses, sign-language interpreters are available we will contact you to see if you would like to switch from rtc service to sign-language interpreting service.

The SDCCD DSPS Department is very interested in your academic success. We are committed to providing high quality rtc services and we believe that rtc service will provide you access to your Political Science 101 class. The attached sheets describe rtc and what you can expect from this service. If you have questions or concerns about rtc services you are encouraged to talk with your DSPS counselor.

Sincerely,

Lauren M.B. Kinast
Interpreting Services Supervisor

CC: Julie Pludow, DSPS Counselor, Mesa College
Interpreting Services Office
rtcletter

Supplemental Instruction at LaGuardia Community College

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Abstract

As one of the few public institutions in the Northeast to provide Deaf and hard-of-hearing students open access to degree programs, LaGuardia-community College receives many students who lack the academic preparation for admission to either of two highly competitive, specialized postsecondary institutions which serve Deaf students exclusively – Gallaudet University and the National Technical Institute for the Deaf. Although these students possess high school diplomas, many experience difficulty and concomitant frustration keeping up with their hearing classmates.

Next to interpreter services, tutorial services offer students the best chance to compete equitably with their hearing classmates and to succeed academically. But in order for Deaf students to graduate and progress in their chosen fields of study, tutorial services at LaGuardia Community College needed to be reconceived and reconstructed. This new view of tutorial services will be modeled after the nationally recognized non-remedial academic support program for hearing students known as Supplemental Instruction (SI).

Introduction

LaGuardia has responded in a supportive manner to the problem that many Deaf students face, i.e., difficulty and concomitant frustration keeping up with their hearing classmates in mainstream classes. At LaGuardia, sign language interpreters are commonplace; hearing classmates are recruited as notetakers, and tutors are provided upon request. These services, although mechanisms for equal access to classroom instruction, do not go far enough in creating optimal learning experiences for Deaf students. Interpreted content is secondhand, and its quality is highly dependent on the expertise of an individual interpreter. With the demand for certified interpreters far outweighing the supply, certified interpreters have become all too rare a find – leaving some classes, at best, filled by inexperienced interpreters and, at worst, with no interpreters at all. Notes taken by other students, likewise, are secondhand and highly dependent on the accuracy of a notetakers' understanding of a particular lecture. In addition, notes are written in English – the language Deaf students still struggle to come to know even at the college level. And, while hearing students have the opportunity to give some initial shape to incoming information through notetaking, since Deaf students must, for the most part, constantly watch an interpreter, they are precluded from looking down to take notes. This denies them the first pass that hearing students have at organizing, and thus subsequently remembering, "orally" conveyed information.

Over the years, it has become apparent that the most effective way for Deaf students to keep up with their class work is to provide them with tutorial services. With such services, students receive information firsthand, "talk" directly to their tutors and have the luxury of time to write notes for themselves. Ironically, this support service,

which does seem to hold the most promise, has suffered from the most neglect. Only certain students are eligible for monetary support for tutors, there is no formal training or screening program for tutors, and little is known about the quality of tutoring offered or if, in fact, tutoring is beneficial to the students. But even more harmful is the fact that tutors have to do much guessing about what transpires during classes that students attend. They are, in a sense, tutoring to the trees, without a picture of the forest. In addition, without funds to purchase the texts that students are using in tier classes, tutors are often forced to read assigned readings that need to be digested before the tutoring session begins, during the session itself. This wastes precious instructional time.

Next to interpreter services, tutorial services offer students the most chance to compete equitably with their hearing classmates and to succeed academically. But in order for Deaf students to graduate and progress in their chosen fields of study, tutorial services at LaGuardia Community College needed to be reconceived and reconstructed. From our years of experience, we have come to see that tutors need to be as effective as possible if Deaf students are to learn in mainstream postsecondary settings. They need to be thoroughly trained, know what transpires in the classes they are hired to tutor, have access to the necessary books required each session early-on in the session, be well-versed in the reading and requirements of all assignments and be able to converse with their tutees effortlessly and meaningfully. This new view of tutorial services will be modeled after the nationally recognized non-remedial academic support program for hearing students know as Supplemental Instruction (SI).

What is SI?

SI is an academic assistance program that differs from traditional tutoring. Rather than targeting high-risk students, SI targets high-risk courses. These are courses which students typically fail, drop out of or do not do well in. SI also requires that "SI leaders" – trained by an "SI supervisor" – attend class sessions, take notes and organize at least three out-of-class weekly study group sessions. Rather than viewing themselves as teachers, SI leaders view themselves as facilitators who encourage student interaction and student-initiated questioning while assisting them in the integration of ideas culled from lectures and readings (Zaritsky, 1994). Leaders use the course texts, lecture notes, supplementary readings and examples of former tests as the bases for instruction.

SI embraces the notion that knowledge, rather than being transferred from the head of the leader to the students, is something that leader and students construct by talking or dialoguing together. Commonly referred to as **collaborative learning**, the idea that knowledge is socially constructed views learning as essentially a reacceculturative process (Bruffee, 1993) where students, over time, become members of a new knowledge community – the knowledge community of their leader. They do this by taking on the characteristics of their leader, specifically by taking on the new academic language used. This, however, can only be achieved by having opportunities to "talk" in the new language and by receiving response to this talk.

SI also views student leaders as model students – students who are looked up to because their behavior, perhaps more than their knowledge, offers students something to emulate. Rather than being "smart", students come to see that their leaders know how to become smart. They come to see that leaders struggle as well when they are confronted with confusion and that being intelligent perhaps requires more perseverance than genetic endowment. They see firsthand that learning means allowing time for thoughtful analysis and having the desire to tackle a problem from different angles.

Finally, SI strongly supports the view that all students have capabilities to learn and that this should be made clear to students by providing them with opportunities to feel good about themselves as learners. As students wind their way closer and closer to acceptable responses, they should be heartily praised each step of the way. Sharing ideas is full of risk for students who might not have had successful histories as learners, but if they are positively acknowledged for offering ideas, they will most likely continue to remain active in their learning.

What is SI's Track Record?

SI was conceived at the University of Missouri – Kansas City (Martin and Arendale, 1983; 1990; 1992) and has been certified as an Exemplary Edu-

cation Program by the U.S. Department of Education. In its 10 years of existence, participation in SI has proved to significantly reduce course failure, improve average course grades and increase persistence towards graduation. It is currently in place in over 600 schools, including over 60 community colleges, and in countries such as Australia and Sweden.

SI has a successful track record. Lundeber and Moch (1995) investigated the relationship between learning and social interaction among women college students in an SI program for science classes and found it to promote intellectual risk taking. Martin and Blanc (1994) studied SI's effect on seriously underprepared students and ascertained that these high-risk students could master difficult content and develop study skills simultaneously. Kenney and Kallison (1994) researched SI's impact on the learning of math and found the SI model to be more successful than the traditional content-only focus of traditional tutoring especially for lower-achieving students. Finally, Congos and Schoeps (1993) discovered that with SI there was a marked decrease in the number of withdrawals from courses.

In the fall of 1993, SI was piloted at LaGuardia Community College with hearing students in Fundamentals of Human Biology I – a high-risk course. When grades of students who attended SI sessions for this section were compared with those of students who were in an identical course taught by the same instructor during the fall of 1992 before implementation of SI, there were noticeable differences. Successful completion of the course – defined by students receiving a grade of A, B or C – improved from 43.6% in the non-SI section to 63.2% in the SI section. Percentages of students receiving grades of A increased from 8% to 17.7% and those of students receiving grades of B from 13.3% to 25% (Zaritsky, 1994). Students, then, who attended SI sessions performed better than a control group of students who did not.

What is the Goal of SI for Deaf Students at LaGuardia?

We, of course, hope to replicate the success rates mentioned above with our Deaf student population and, in so doing, remove the stumbling blocks posed by several courses which serve as gatekeepers, frustrating and holding students back from making the most of their college years. Typically, these courses have been English Composition (English 101), Biology (SCB 101) and Math 96. On a larger scale, we hope to become a national model of SI instruction targeted for Deaf students by sharing with our colleagues in other settings what teaching techniques and learning strategies worked best for tutors and tutees. As of this date, the writer is not aware of SI having been used or currently being used in any postsecondary program for Deaf students.

How Does the SI Model Used with Hearing Students Differ from its Use with Deaf Students?

SI leaders for hearing students introduce students to the idea of SI during the first day of classes and request schedules for the students interested in participating. During the second day of classes, the schedule of SI classes is announced and distributed.

The SI model for Deaf students has different initial procedures. Their counselor introduces all Deaf students scheduled to take one of the high-risk courses to SI during the time of registration. At that time, their schedules are arranged to fit two, one-hour study-group sessions. Study group sessions must be scheduled to fit the availability of the student leaders as well. Requests for interpreters for SI courses are given priority status by the coordinator of interpreter services.

The evaluation plan funded by the State Department of Education requires that both SI leaders and students keep learning journals. For the SI leaders, we ask that, for each SI session, they keep brief anecdotal notes on which SI strategies have more impact on students than others. We need to also ask that the SI leader pay close attention to the kind of "talk" that transpires during small group work and to write brief anecdotal accounts of the ways in which students explain their understandings to one another. Here we would be interested in finding out what specifically students do, through language, to help each other understand new concepts. More specifically do they:

- Use analogy and/or example?
- Refer to past encounters with similar material?
- Use more visually based ASL grammatical constructions such as classifiers,

referencing, constructed action or constructed dialogue?

For the students, in addition to asking them to pinpoint the strategies they found most-helpful, we ask, at the conclusion of each session, to jot down what specifically they were confused about at the beginning of the session, the reasons they were confused and what they subsequently learned.

What Additional Strategies Might be Tried with Deaf Students?

Encourage Notetaking

Our SI leader for the MAT 96 course is Deaf. After consulting with him, he agreed to try to take as many notes for himself as possible. We asked him to consider this idea not only for the good that it would do to have a self-written record of the lecture, but to show the other Deaf students in the class that it is not totally impossible all the time to take some notes. Our Math 96 leader explained that he is able to job down the important concepts the teacher covers in a session as well as copy examples from the blackboard. Using this student leader as a role model, Deaf students would be able to see firsthand how notetaking and watching an interpreter are, at times, not necessarily mutually exclusive activities.

Use Text Interpretation

In courses other than math, we encourage the use of **text interpretation**. This means that either sections of textbooks or novels or stories that the SI leader deems necessary for students to understand should be made into transparencies and projected, through the use of an overhead projector, on an empty classroom wall. The leader should stand to the left of the projected text (facing the class), read a sentence ahead to him or herself and then interpret that sentence using ASL. Once the meaning of the sentence is presented, he or she should backtrack, using his or her finger underneath the projected sentence that was just interpreted to allow students to the opportunity to re-read the sentence to themselves. Vocabulary words that still cause students difficulty should be interpreted again for them.

Use Good Models of Student Work

Particularly with respect to English 101, it would be most helpful for the students to see examples of the edited work of other Deaf students who have taken English 101. This will offer students opportunities to see writing that is appropriately scaffolded – i.e., within their reach given instructional assistance. Representative examples in several rhetorical modes (argument, compare/contrast, analysis) as well as the researched essay could serve as models and springboards for their own writing.

Assign Summaries and Questions about Lecture Notes as Homework

It might be helpful for students to arrive at their study-group sessions with summaries of the class notes along with written questions about any parts of the notes that were problematic for them. Leaders can start the session hearing the summaries and questions which will give them a handle on how much each study group member understands. With this information, leaders can zero in on a particular student's mis- or non-understandings.

Conclusions

Our program of SI assisted 72.4% of its participants in receiving grades of A, B or C. In addition, over 75% of the students attended 85% or more of the study group sessions. Another way of looking at the influence SI had on student achievement is to ask why 27.6% of the students received grades of only D or F. In the majority of these cases, students who did not receive grades of A, B or C either attended 50% or fewer of the study-group sessions, did not turn in required assignments or did not attend required laboratory sessions which counted as part of their course grade. Obviously, students who attended more SI session fared better than those who attended fewer sessions but for a few other students, attending SI sessions was not enough to assist them in getting grades of A, B or C. Lack of diligence and discipline worked against these students and were forces beyond the poser of SI influence.

Perhaps the more important question to ask at this point is what specifically it was about that enabled its participants to experience success in mainstream-college classrooms. For this answer we look to some specific strategies that were used by the SI leaders, how the SI model fostered a sense of accountability in the students, and why the SI model suits the needs of students who learn visually.

Specific Strategies Used by SI Leaders

The Explicit Teaching of Reading
Our first few strategies clustered together and came to fruition when virtually all SI leaders realized that they were facilitators for specific content areas, **as well as for the reading required** by those content areas. When teaching Deaf students, there is no way that written English and content can be separated. Each must be embedded in the other if we expect Deaf students to be educated well.

The Use of Discussion in the Teaching of Writing
Again, in our English 101 SI study-group sessions, SI leaders noted the need to thoroughly discuss any reading, film or concepts brought up in class prior to asking the students to do any writing assignment about them. Related to this, before students would embark on an essay assignment, our SI leader facilitated a discussion to ensure that students understood the essential meaning of the essay question.

The Use of Drama, Analogy and Drawings
In their journals, students reported that the use of drama, analogy and drawings helped them to visualize concepts more easily.

SI Students Became More Accountable for Their Own Progress

It was an eye-opening experience for many of our students to receive low grades on quizzes and tests. Used to social promotions from their respective high schools, they began to see that they could not get by without "sweat," and if they did not study, they would not pass. Being held responsible for their own progress was a new demand as was the reality of the aphorism that without pain, there would be no gain. As students became more accepting of the idea of self-discipline, they became less passive about their learning. They also started depending more on each other and less on their SI leader for explanations, appreciating the fact that incorrect answers that were student-generated, discussed and corrected as a group were more enlightening than answers explained by the SI leader.

The SI Model Suits the Needs of Students Who Learn Visually

This study has taught us that SI is an **essential component** of a postsecondary program for Deaf students in mainstream, postsecondary settings. In all of the courses offered with SI, both students and leaders recognized that the majority of learning transpired not in class but in the SI study-group sessions. There were a variety of reasons for this, ranging from feeling that the classroom teachers "surface taught," went too quickly or did not present concepts in a visual way, did not allow Deaf students time to look away from their interpreters, to their textbooks and then back to their interpreters again before moving on to a new topic, or even to the seemingly unavoidable fact that sometimes interpreters showed up late or did not show up at all.

The study group instilled a certain level of comfort and thereby confidence in the students—two feelings that need to be internalized before any learning can take hold. Of particular interest was an SI leader's comment that "Deaf students need absolutely excellent teachers" which struck this writer as being very true. Deaf students face enormous challenges in the mainstream classroom – much more perhaps than any other group of students. Are there enough excellent teachers out there to ensure that Deaf Students will not have to worry about getting the education they deserve? While we would like to believe that there are, we know there aren't. With this in mind, SI for Deaf students should be a more mandatory than optional component of a postsecondary mainstream program. It is the "second breath" in Deaf students' efforts to compete equitably with students who are far less challenged in becoming college-educated.

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Job Enrichment: One Avenue to Retaining Strong Staff and Providing Quality Service OR They Really can do More than Interpret

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Abstract

Because of the physical limitations of sign language interpreting, when a postsecondary institution hires a full time interpreter, it is generally with the understanding that s/he will not interpret forty hours a week. Many institutions and administrators wonder what these employees will be doing after they have finished interpreting classes. This paper examines various approaches to hiring interpreters and the positive outcomes of enriching and expanding the variety of duties for interpreting staff. Higher quality, consistent and stable services for students and increased job satisfaction for staff are some of the possible benefits of retooling interpreter position descriptions. For those institutions using primarily freelance interpreters, these issues raise the possibility of creating palatable staff positions or developing new approaches to hiring interpreters who work in private practice.

Introduction

Historically, postsecondary institutions in the United States have had difficulty hiring enough interpreters, slotting interpreters into appropriate human resources categories, developing job descriptions, and determining duties other than interpreting and preparing to interpret. This paper examines the variation in interpreters' roles at various institutions, focusing on the University of Wisconsin—Milwaukee (UWM), and suggests that interpreter job duties can be enriched to include varied professional duties beyond interpreting, thereby improving staff job satisfaction and at the same time leading to improved quality, consistency, and stability of services for students who are deaf or hard of hearing. This builds on research that interpreters are advised, due to repetitive motion injuries, to limit their number of actual interpreting hours to approximately 20 - 25 hours weekly. With this limitation on the number of hours a person can interpret, institutions are faced with the dilemma of fashioning positions to meet the interpreting needs, while at the same time creating palatable positions.

Retention of Interpreters

Hiring and retaining qualified interpreting staff has long been an issue at many postsecondary institutions. As more students who are deaf or hard of hearing attend these institutions and work in professional positions on the same campuses, there are even more challenges in keeping strong staff than there might have been in the past. This issue is significant for numerous institutions. In 1997/98, both PEPNet and the Midwest Center for Postsecondary Outreach (MCPO) surveyed postsecondary institutions in their *National and Regional Needs Assessments Results: Priority Needs for Postsecondary Institutions Serving Students who are Deaf or Hard of Hearing*. The needs assessment reflects the need, both nationally and regionally, for knowledge of "managing interpreters" and "how to recruit, coordinate and fund quality interpreters."

Also, the 1989/90 National Technical Institute for the Deaf/Rochester Institute for Technology (NTID/RIT) Repetitive Motion Injury research established the need for new standards on the number of hours per week someone can interpret to retain qualified interpreters, and this resulted in the lowering of the weekly number of interpreting hours at NTID and other institutions. In addition, the current tight labor market, competitive salaries and the development of more staff positions at community interpreting agencies, are additional reasons for postsecondary institutions to pay attention to retention of skilled interpreters.

One of the greatest challenges a DHH program faces is providing quality, consistent, stable and responsive services while at the same time retaining strong staff. Campuses would do well to analyze their own services and ask these questions:

1. Does the campus have established hiring standards in terms of certification, education, and experience?
2. Is the campus able to provide consistent interpreters for ongoing classes and meetings?
3. Are interpreters available for the full length of a student's needs?
4. Are the services responsive; are interpreters available for last minute one-on-one meetings with faculty?
5. Does the campus ask consumers to evaluate the interpreting services?

Historical Deaf/Hard of Hearing Programs Staffing Models

Postsecondary institutions have made a few attempts at creative position development for interpreting services. In general, the first and most common approach is to hire someone generically referred to as a "Program Manager/Interpreter." Many campuses have found this arrangement to be beneficial when there are only a few students who are deaf/hard of hearing. This arrangement allows the manager to serve as an advisor to students, to schedule freelance interpreters, and to do some interpreting also. This is a common model.

As programs expand and serve more students, a next logical step beyond hiring a Program Manager is creating a "Lead Interpreter" position. In general, this person interprets, does scheduling of other interpreters, and might serve in a supervisory capacity as well. While these positions create new duties for the individuals lucky enough to land the Program Manager or Lead Interpreter positions, this does not create other interpreter positions with duties above and beyond interpreting. On many campuses, administrators look at the interpreting situation and request that staff interpreters also tutor. While this appears reasonable because interpreters often have "down time" between classes and understand deaf/hard of hearing students and their needs, due to conflict of interest or lack of subject knowledge, this is not always the best use of interpreters' time. There are other ways to retain strong staff, build interesting interpreting positions, meet campus demands, and make the best use of staff hours.

Applying the Theory of "Enrichment" to a Postsecondary DHH Staff

One approach to re-tooling interpreting staff positions is to "enrich" the jobs. According to Frederick Herzberg's theory of "job enrichment" (Herzberg, 1968, 1987), if you re-design jobs by giving employees more and varied duties, which are different than their standard responsibilities, they will be more satisfied and motivated, which in the case of a DHH program, ultimately leads to higher quality services for students and staff retention. This can be viewed as altering the jobs vertically - giving people more challenging duties which might have been done by supervisors, by people above them - instead of enlarging the jobs horizontally or giving staff interpreters more of the same duties they are already performing, in this case, interpreting. In fact, due to repetitive motion injuries, additional interpreting between 20-25 hours a week is generally not acceptable. If a full time staff member interprets half of the week, s/he has to carry other duties. With the above in mind, how can programs retain staff?

According to Herzberg, if employees are satisfied and motivated, they remain loyal, and organizations see less turnover. In terms of DHH staffs, less turnover means the campus retains strong individuals, familiar with the workings of the institution, familiar with the students, and committed to the office culture.

Job enrichment theory suggests that employees are satisfied and motivated by some of the following factors:

- achievement
- recognition
- responsibility
- intrinsic challenge of work itself
- advancement

While familiar issues such as salary, benefits, and institutional policies need to be fair, it is the above motivation factors which keep employees interested and committed to the work. In the early stages of the development of the interpreting field, interpreters were often relegated to the lower rungs of pay scales. Interpreters who were motivated by the work often stayed in the field because they were satisfied by other factors. Certainly, if an institution's pay scale is not in accordance with local standards, this will be detrimental to staff retention.

In creating interpreter positions with more and varied duties, institutions can reap some of these positive benefits of job enrichment:

- Answering administrators' questions about non-interpreting downtime.
- Making staff interpreters a more valued and integral part of the institution.
- Assisting in further professionalization and diversification of the interpreting field.

Enriching a Staff Position

The following suggestions are not all inclusive of job enrichment ideas, but attempting the following can assist a campus in redefining staff positions:

- Remove controls: allow interpreters more power in choosing their schedules.
- Increase accountability: more varied duties means staff might have to report to more people.
- Create natural work units: encourage self-managed teams based on various projects or experiences.
- Provide direct feedback: have more one-on-one meetings to assist with new projects.
- Introduce new tasks: provide additional duties that might be considered a duty normally performed by someone higher up on the chain of command.
- Allocate special assignments: give staff the time to create a presentation for local, state, or national conferences.
- Grant additional authority: develop a mentorship/intern program and allow staff to supervise the mentees or interns; grant employees more power over planning and control, not just execution of a project.

The University of Wisconsin - Milwaukee DHH Program

The University of Wisconsin—Milwaukee (UWM) is a medium-sized program with six staff interpreters with varying contracts (some full-time, some nine-month, some twelve-month), one program manager, and one assistant program manager. The campus also houses an outreach site for the Midwest Center for Postsecondary Outreach and sub-contracts interpreting services to other local postsecondary institutions. The use of job enrichment ideas at UWM might not parallel those of campuses of varying sizes, but some of the points can be used in programs of any size.

Following the concept of job enrichment, UWM has added these types of duties for interpreting staff beyond the standard 20-23 interpreting hours per week:

- Develop/manage internship site.
- Coordinate Deaf Issues Network on campus.
- Develop new faculty/staff training: Deafness 101.
- Administer RID testing supersite.
- Serve as liaison to UWM ITP advisory board.
- Coordinate student "Sign and Dine" program.
- Co-teach RID certification preparation course.
- Plan high school preview days.
- Handle accounting for notetaking and subcontracting services..
- Coordinate notetaker training.
- Provide TTY inservices.

- Develop/maintain national staff interpreter salary survey.
- Design/maintain web page.
- Manage Postsecondary Interpreting Network listserv.
- Manage student reflector.
- Assist with scheduling.
- Troubleshoot computer challenges.
- Manage graphic design projects.
- Assist with photography to document DHH program history.

The half-time staff members also have "enriched" duties, but not as many as full-time staff. In addition, UWM has several positions which include two jobs, such as, Interpreter/Program Manager and Interpreter/Outreach Specialist. These positions allow experienced interpreters to maintain their interpreting skills and at the same time expand their repertoire of experiences.

One might argue that job enrichment looks similar to "slash" positions sometimes used in primary and secondary settings, such as interpreter/tutor or interpreter/aide. These have been criticized because the duties often appear to be used to fill interpreters' downtime. The difference with the job enrichment approach is that the duties are more challenging; hence, the term enriched, instead of expanding their jobs into "slash" positions, only to fill them with less meaningful duties.

Hazards of Change

While enriching job duties for interpreters at UWM has met with positive reactions from the staff, is it also possible the idea might be met with resistance.

Interpreters might say, "We don't want to be enriched." If the staff is comfortable with fairly predictable positions, adding new duties might be overwhelming for some. During hiring of new interpreters, it will be important to clarify the expectation of the program or department.

The next question interpreters might ask is, "Are you going to pay us more?" The short answer to this is, "No." This can be qualified by adding, "If your job duties change significantly enough to warrant a transfer to a totally new job category, yes, your pay will be adjusted."

Finally, managers might not be interested in job enrichment for staff interpreters because it generally means that managers relinquish some power. In addition, it might mean more time providing feedback as staff learn new duties. In general, managers can benefit by transferring some duties to the staff, thereby giving themselves more time for planning, working with students or program development. Many DHH Program Managers were or are interpreters themselves and might not have had the opportunity for any management training. Job enrichment of staff interpreters might provide time for professional development for managers also. In the case of UWM, these changes were viewed by all as positive and led to staff retention at the campus.

"Quick Wins"

For some institutions, immediate, large-scale change is not possible. There are still means to attempt to retain staff interpreters while considering other changes. Also, campuses might try some of these ideas in retaining hourly or freelance interpreters. (During the sessions in Denver, the audience contributed some of these ideas for "Quick Wins," or ideas to retain experienced staff. The ideas listed needed to be inexpensive, feasibly accomplished and have positive outcomes.)

- Nominate deserving individuals for campus, local, state or national awards.
- Remain flexible to personal scheduling needs for doctor appointments, children's illnesses, etc.
- Provide passes to campus health and recreation facilities.
- Free parking.
- Tuition reimbursement if the campus provides it for other employees.
- Free tickets to campus events.
- Mental health days with classes covered by colleagues.
- End-of-year party or dinner.

The Future of Work

Job enrichment for staff interpreters and "quick wins" are not a panacea for all DHH Programs' retention challenges. Each program carries its own idiosyncratic issues. Job enrichment does take into account that the world of work is ever changing. Our original models for interpreting positions need to be examined and placed in the greater context of the current and future professional and technological world; postsecondary institutions are researching providing long distance classroom interpreting between several campus via remote video.

At the same time, we need to be aware that organizations will need to be more flexible and provide less rigid job descriptions. In the future, employees with varied skills/competencies - not only interpreting - will be valued more than those with one specific expertise. Those who can learn new skills/competencies quickly will be highly valued in our rapidly changing world. Job enrichment is one means to meeting those future challenges.

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Section VIII
Working with Students from Diverse Backgrounds

Designing a Program in a Postsecondary Mainstream Institution to Meet the Needs of Multicultural Students who are Deaf or Hard of Hearing

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LaGuardia Community College
Northeast Technical Assistance Center

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LaGuardia Community College
Program for Deaf Adults

Abstract

LaGuardia Community College is one of 19 City University of New York campuses in the New York metropolitan area. It is located in the borough of Queens and is the home of the Program for Deaf Adults, which provides academic support services and courses to deaf and hard-of-hearing students at LaGuardia.

Several years ago, the college made significant changes in curriculum and policy to support its commitment to pluralism and better meet the needs of its diverse population of students. It is important to understand the context in which these changes were made and how they have positively influenced the activities and initiatives of the Program for Deaf Adults (PDA).

The PDA model as described below has helped make an important contribution to our college, and it is hoped that this information will be valuable while designing your own programs to meet the needs of students from multicultural backgrounds.

A Look at Diversity

Why is the issue of diversity so important today? Is it because President Clinton established a committee to address these concerns; or, because it is politically correct to talk about these issues? Or, is it that since the Civil Rights law of 1964, the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, there remains little progress in the inclusion or acceptance of people of color in our society?

It is a sad truth that even today, segregation exists in communities, housing, and schools. More tragically, the resultant economic inequality and violence continues to devastate our nation.

Some people in the field of educating students who are deaf or hard of hearing feel that the situation is different. Working in this field does force one to deal with diversity. All of us are aware of the special educational concerns and supports for our students. And, for the most part, including those culturally different from mainstream populations; we serve them on an individual basis in terms of their unique needs without regard to race.

However, when students enter the classroom, they are often confronted by a mainstream curriculum – using materials and lessons plans that have consistently omitted the many accomplishments and contributions people of color have made to our society. We are not giving our students a true representation of how our nation was formed, and we are certainly not giving them the hope that they too may aspire to become leaders and influence the world in which we live.

In Beverly Daniel Tatum's book on race, racism, and racial identity, she identifies "the cycle of oppression." Dr. Tatum speaks eloquently about how we are bombarded with stereotypical images in the media, exposed to ethnic jokes of family members and friends, and are rarely informed of the accomplishments of oppressed groups.

Without illuminating the shadowy ignorance of the past, it likely that the dark periods of our history will be repeated. Until we begin to change the images in media, introduce a history that includes the contributions people of

color have made to society, and begin to talk openly about race relations, we will be stuck in this cycle. Dr. Tatum also speaks about how the cycle is true not only in the way we raise our children but in the material that continues to be chosen for and taught in schools from elementary level through university study. She writes, "we teach what we are taught – it is not our fault, but it is our responsibility to interrupt the cycle."

One example she offers makes this very clear. While at a grocery store, a white mother and preschool child pass a black mother and her child. The white child says, "Mommy, look at that girl! Why is she so dirty?" (A common misconception among white preschoolers). The mother is embarrassed and says, "Shhh," and walks away quickly.

What happened here is: one, the white girl's misconception about the black child being dirty is confirmed by her mother's reaction; two, the white girl is taught that you don't talk about people "like that;" and three, you in fact run away from "those" people.

Absent a discussion by the white mother regarding different ethnicities, the girl is left to her own imagination. What could have happened is that the mother might have said, "No, the little girl is not dirty, she is has a different skin color..." Other discussions about the differences in height, weight, color of hair, kind of hair, etc. might have taken place and would have informed the little girl better.

One point that Dr. Tatum makes clear is that we develop prejudices not only from what we are taught, but more significantly from what we are not taught. We are often left to our own imaginations and previous experiences when thinking about someone who is different.

If we look at our own programs, we can begin to think about how to change the cycle of oppression. First, as educators we can start to look at our curriculum, the materials used, and the discussions held in class. As program administrators and counselors, we can look at how we treat each other in non-academic settings and in other program and school related activities.

The best situation is to be in an academic setting in which the administration supports an inclusive environment, an environment I will describe and that currently exists at LaGuardia Community College.

LaGuardia Community College

Beginning with only a handful of students and administrators in 1971, LaGuardia currently serves 11,000 students in the academic division and 28,000 in the division of Adult and Continuing Education. Fifty percent of the students are immigrants. The student population is representative of over 100 countries and speaks over 130 different languages.

Eleven years ago, when President Bowen came on board, he stated his commitment to pluralism. In an effort to provide an environment of openness, equity, and support for this highly diverse population and to maintain a community of inclusion in which deaf and hard of hearing students will thrive, LaGuardia established systems specifically to promote pluralism and diversity.

College-wide Infrastructure Task Force on Pluralism

Formed by a mandate of the City University of New York in 1989 as a committee of the president's office, this task force was established to promote pluralism and confront racism. Over the years, it has provided numerous college-wide forums and faculty development workshops focusing on issues of equity and diversity.

Lectures on stereotyping in the United States, were organized by outside scholars, writers, directors of organizations, and human rights leaders. The lectures served a dual purpose: to increase awareness of the evolution of stereotyping and of its manifestations in the American society and to provide accurate representations of various groups and their contributions to American culture.

The task force has two adjunct groups, the *Network to Confront Racism* and the *Student Network to Confront Racism*, which share the same goals: to educate and raise consciousness about racism; to provide forums for "difficult dialogues" about racism and other contentious issues; to serve as a resource on these issues to the college community; and, to identify strategies in dealing with bias and racial incidents in and out of the classroom.

Participants from both groups receive extensive mediation financed by the Office of the President, the Division of Adult and Continuing Education, and Student Affairs. The student component of the network assumed a leadership role in establishing a new initiative called "Town Meetings." These provide a safe, comfortable, and constructive forum for students,

faculty, staff, and administration to ask questions, share concerns, disseminate information and develop a greater facility for dealing with difference. The forums proved to be an invaluable venue for airing problems and resolving conflicts.

The Task Force on Pluralism succeeded in raising consciousness about pluralism and worked to establish curricular policy in support of its goals throughout the college. When the college prepared to change its academic calendar from quarters to a modified semester system in 1991, the task force seized the opportunity to work with the Curriculum committee on establishing guidelines to ensure that all courses and programs in the academic division incorporate pluralism throughout the curriculum, instruction, materials and assessment of students.

These guidelines have now been institutionalized, and the Division of Adult and continuing Education supports them. The LaGuardia Library reflects its commitment to multiculturalism through its collections and services. The Program for Deaf Adults exemplifies the application of these principles.

Program for Deaf Adults (PDA)

PDA is a model, urban, postsecondary program primarily serving multicultural students who are deaf or hard-of-hearing. It offers a comprehensive education through an extensive variety of both degree and continuing education courses, serves an average of over 1,000 students annually, and is among the largest of such programs in the United States.

PDA's student population is similar to that of CUNY overall: ethnically diverse recent high school graduates plus older students returning to school, many of whom work full or part time.

The largest group, Hispanic, includes students from Colombia, Dominican Republic, Puerto Rico, Mexico, and others. The second largest, non-Hispanic white includes students from Russia, Romania, Poland and Greece. The third largest group is Black, but only one-quarter of that is African-American; the majority is from Jamaica, Trinidad, Haiti, Guyana and England. The Asian group represents India, China, Hong Kong, the Philippines, and Vietnam.

PDA's on campus student body represents the following:

- 47 deaf/hard-of-hearing students in the academic division
- 430 deaf/hard-of-hearing students in continuing education courses
- 44 deaf/hard-of-hearing students in CUNY outreach programs
- 859 hearing students in ASL and Interpreter Education programs

The Program for Deaf Adults offers services and courses to students in both the academic division and the division of adult and continuing education. It also serves as a resource to college-wide offices and departments. The following is a list of such services:

Services offered to Students:

- Support services to deaf/hard-of-hearing students in the academic and adult and continuing education divisions
- Counseling and registration assistance for students in the academic and adult and continuing Education
- Specialized sections in remedial reading and writing for deaf students in the academic division taught by a professor proficient in ASL and skilled in teaching this population
- Reading and writing intensive workshops to prepare students for college and to prepare students for passing CUNY exit exams
- Continuing education and "feeder" programs for students preparing to enter the academic division
- ASL classes to students for credit or non-credit

Educating the College Community and Collaboration within CUNY

- Serves as liaison to administrative offices: The Registrar, Admissions, Bursars, Financial Aid
- Provides education to the college community as a whole – security office, nursing, staff, general college community
- Collaborates with the Academic Division (Human Services Program) to initiate a Deaf Studies Program; Job Placement Office to make services more inclusive;

English and Communication Skills Department to offer courses specifically to deaf/hard-of-hearing students

Outreach work within CUNY/throughout Region II, and New York State

- CUNY-wide Regional Support Services (providing interpreter services)
- Interpreter Education certificate program and workshop training throughout Region II
- Through the Northeast Technical Assistance Center – looking at issues of diversity

Staff and Teachers

PDA's teachers and staff are ethnically diverse and fluent in both American Sign Language and English. PDA strives to recruit interpreters that meet the communication needs of students and match the cultural diversity of this population. PDA reaches out to established minority organizations in the New York City area and encourages members of these groups to enter the interpreting profession and join the interpreter education program at LaGuardia.

Teaching Practices

PDA provides individuals who are deaf or hard-of-hearing with the special education and skills they need to succeed in a mainstream environment. It offers students an education in an atmosphere with few communication barriers and significant numbers of deaf and hard-of-hearing peers from different cultures with whom to socialize and share experiences.

The philosophy of teaching to students who are deaf or hard-of-hearing embraces the extensive understanding and usage of two different languages, American Sign Language (ASL) and English. ASL is the language of instruction used. Reading courses are based on themes, taught in context using a who language approach and include a multicultural perspective – example of such themes have been the Apartheid, Native Americans, Bosnia, and of course, Deaf Culture. Pluralism pervades the curriculum and pedagogy. Students read and write about works drawn from a wide array of genres by authors who represent a full range of ethnicity and national backgrounds. The goal is to motivate students to question their preconceived ideas about race, ethnicity, sexual preference and gender by drawing them into an exploration of the backgrounds of the diverse characters they encounter.

The teachers hired by PDA are ethnically diverse as well as fluent in American Sign Language and English. Some of the instructors are graduates of LaGuardia. The particular needs of students insufficiently prepared for college-level work are met by creating learning environments where students are not afraid to take risks and where diverse ways of thinking and learning are valued and respected.

Continuing Education Courses

A sampling of Continuing Education courses for Deaf and Hard of Hearing students includes: ASL for Deaf Foreigners, Intensive Academics for Deaf Foreigners, Academic Skills Levels I through IV, GED, Typing and Computer Skills, College Preparatory courses (which is a part of the feeder program), and Individual Instruction.

Individual Instruction is a one-to-one intensive instruction provided to meet the specific needs of individuals whose educational needs cannot be met in a group setting. This course was developed about ten years ago when a late-deafened adult came to the program. Individual Instruction has been very successful and is offered to a multitude of students to meet very individual needs. For instance, a Haitian-native student who is hard-of-hearing and fluent in spoken Creole French required prep work to prepare for the American History Regents exam. We were able to provide a licensed high school teacher, also fluent in Creole French. Eventually, this student passed the Regents test and was able to earn his H.S. diploma and enroll in LaGuardia's degree program.

Unique to LaGuardia are the articulation agreements (with the Division of Academic Affairs' departments of English and Communication Skills) to run specialized credit course sections specifically designed for Deaf students in English (basic writing), Communication Skills (reading), and English 101. The English and Reading courses are very important to note, since courses such as these are rarely seen on mainstream campuses. Before these were established, students would pass these developmental skills courses only after 2 – 4 failures.

One attempt by the college was to place students in the ESL sections. Again, this failed. Finally, hiring an educator who is experienced and educated in teaching Deaf students and fluent in ASL was the solution. Students now pass these courses after one semester and gain the prerequisite foundation skills so necessary for success in other courses. These courses are not considered PDA courses but academic courses offered by the academic Division, which must meet all of the requirements as any academic course.

In addition to these courses, specific workshops are provided to Deaf and hard of hearing students to offer additional support to pass the University exit exams – Writing Assessment Testing, Reading Assessment Testing, and Math Assessment Testing (also known as CUNY Proficiency Exam). These exams have been used for placement into appropriate classes and are now required for graduation and to transfer to CUNY's four-year colleges.

A unique support service system (Supplemental Instruction)

Supplemental Instruction Program, or SI, takes a unique approach to academic support. Rather than targeting students who are at high risk, the program identifies high-risk courses, mostly those taken by beginning students. All students in those courses have the option of attending study group sessions, facilitated by peers (also known as SI leaders), who also attend the class. SI leaders can be former students or tutors from the Deaf Community. The SI Model was developed by University of Missouri at Kansas City in the 1970's and is now widely practiced in many colleges all over the nation. Approximately three years ago, working closely with LaGuardia's SI Program Project Administrator, the Program for Deaf Adults adapted the model and implemented the SI Program for our Deaf and hard-of-hearing students here. The results were a higher rate of Deaf students passing high-risk courses.

One major project of PDA's college-wide was to increase the percentage of workers in the Deaf field who represent culturally diverse populations is the proposed Deaf Studies degree program. It is offered through the College's Human Services Program, and its students are mostly hearing whose career goals include working with the Deaf population as interpreters, teachers, and/or human services providers.

Deaf students are also taking these courses. The curriculum includes two years of classes in American Sign Language (four different levels), Sociology of Deaf Communities, and Internship Seminars. The Coordinator and full-time professor is profoundly deaf and fluent in ASL and who teaches such mainstreamed courses as Principles of Human Relations. This professor also teaches a cross-cultural class to interpreter students (a program administered by PDA), which typically includes a panel of Deaf individuals (generally PDA students) from different cultural groups each week.

"Dual Access" courses are an outcome of the Deaf Studies initiative. Dual Access courses are either ASL (II through IV) courses offered in the academic division that can be offered to students for academic credit or continuing education status. This innovative system has helped increase the enrollment in these courses, a problem we had previously seen when continuing education and academic divisions compete for the same students.

The Dual Access system in Basic Writing and Reading Skills courses are also made available to Deaf and hard-of-hearing students who are not matriculated. This has helped students to maintain non-degree status for one semester before entering as a degree students and tapping into financial aid and vocational rehabilitation supports.

One other noteworthy item is worth mentioning. Every year, Deaf and Hard of hearing students of color and diversity in the Basic Skills Academic Writing course contribute their best essays to a college-wide reading. Some of these essays were published as a collection in the booklet, "Voices of Deaf Writers." This booklet was distributed throughout different secondary and post-secondary educational institutions for Deaf students. The collection was also part of the required reading in the current Continuing Education's feeder program courses and in Academic's Basic Writing and Reading classes for Deaf and hard-of-hearing students. These stories have often inspired other Deaf and H/H students of color. In addition, some of the students' work can be seen in Professor Sue Livingston's recently published book, "Rethinking the Education of Deaf Students: Theory and Practice from a Teacher's Perspective."

Extracurricular Activities

The Deaf Multicultural Club (DMCC) caters to students who are deaf, hard of hearing, and deaf-blind both in the academic and continuing education divisions. Its main mission is to increase awareness of deaf culture within the college community and promote integration among students who are deaf, hard of hearing, and hearing. It includes weekly meetings facilitated by a deaf, minority-group faculty advisor.

Summary

Through its Program for Deaf Adults, LaGuardia Community College continues to be a successful pioneer in meeting the challenges and special needs of a unique multicultural student population segment—students who are deaf or hard-of-hearing. Specific courses and programs have been set in place and methodologies are used that are specific to this population. Significantly, the student success rate (graduation with degree) of PDA has consistently improved and now parallels that of mainstream institutions.

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Using a Self-Directed Guide for Students who are Deaf-Blind Considering College

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Students who receive a postsecondary education who have both a vision and hearing loss are a relatively small population. However, their support needs can be many and are as varied as the individuals themselves.

Often deaf-blind students who are considering college have never considered their learning style or the accommodations that best meet their needs. In high school, accommodations are usually made by teachers with little involvement from the student. Once in college, the student must learn to advocate for necessary supports. It is essential to the student's success at the college level. However, deaf-blind students need a way to gain these skills.

Many times, college staff including Disabled Student Services, have not had experience serving deaf-blind students in the past and are not familiar with many of the accommodations that could be afforded to deaf-blind students. Does the student need braille transcribed textbooks, access to a closed circuit television (CCTV), or a tactile sign language interpreter? To answer these and many other questions, college staff need a guide or tool that would help determine how best to meet the needs of deaf-blind students.

Description of *The Guide*

In response to these gaps, *The Guide for Students who are Deaf-Blind Considering College* was developed. It is a tool to assist students to identify their own personal learning style and to identify and evaluate college programs and support services, which enables them to select a college that best meets their individual needs. It is a useful tool for high school graduates as well as adults seeking additional education after time spent in the workforce. *The Guide* is divided into four sections, which can be used individually or collectively. The following is a description of each section:

The "Personal Learning Profile Checklist" surveys a student's preferences (communication modes, use of ALDs, teacher positioning), environmental concerns (lighting sources, use of audio/visual equipment), and other accommodation considerations (print or alternate media, test accommodations) in a yes/no checklist format. Once completed, a compilation of the "yes" answers will reveal the student's personal learning style.

"Searching for College Programs: Getting Started" includes a questionnaire about the student's high school experiences, interests, and relationship with his/her vocational rehabilitation counselor. The section concludes with a checklist of initial questions to consider for colleges of interest to the student, e.g. size, entrance exams, academic calendar system, etc.

The third section titled, "Campus Characteristics," asks the student questions about classrooms, e.g., size, seating arrangements, travel on campus, and the dormitories (lighting, events/activities, and safety issues). Students complete this checklist for each college being considered.

The last section of *The Guide* is the "Support Services Checklist." Questions regarding fourteen support services that may be requested by students who have vision and hearing loss are included to help stimulate discussion with college staff and

additional questions by students, and to identify support services available on the prospective campuses. These fourteen support services include: interpreter services, notetakers, readers, tutors, volunteers, large print materials, braille materials, taped textbooks, alternate test-taking methods, reading machines, orientation and mobility (O&M) services, transportation services, counseling and support services, and additional services.

Postsecondary Education: A Personal Perspective

I am Heidi Aulenbach, a social work student at Metropolitan State College of Denver. I will discuss my own personal experiences as a college student who happens to be deaf-blind and my encounters with other deaf-blind college students on the campus that I now attend.

I was born deaf and blind as a result of maternal Rubella. I do have distance vision problems in my left eye, but it is usable. Through the right eye, I can see colors and shades of light and dark, but it is out of focus.

I am profoundly deaf in both ears. However I do have residual hearing that allows me to compensate for my lack in the ability to lipread others or things I do miss in my limited field of vision. I had years of speech therapy which enabled me to use my hearing and speech to converse with hearing people. My preferred method is sign language, which I use fluently in addition to my speech skills.

My experiences as a deaf-blind college student began fifteen years ago when I attended Gallaudet College in Washington, DC just after I completed high school. At that time, I considered myself a very independent adult, able to get around on my own, just as I still do today. Still, my first college experience did offer new experiences for me in handling my affairs and taking responsibility for myself. I learned these skills gradually over the next several years. While at Gallaudet, I had some denial regarding my deaf-blindness and thus, I did not take advantage of the services that were offered for the deaf-blind students there.

At that time, services for deaf-blind students at Gallaudet included note taking, tactile interpreting, and tutoring. There was even a support group for deaf-blind students. I didn't think to use those services in the classrooms as I could see the teachers signing the lectures. Thinking back now, I do admit that I had trouble seeing the blackboard and did not take good notes.

After two years, I decided to leave Gallaudet and return to California, where I attended a community college. The student services were excellent. I did well in most of my classes. There was only one other student at that community college who had similar vision/hearing problems as a result of Rubella.

In 1993, I relocated to Colorado. After living in Denver for a while, I realized that there was a serious need for better deaf-blind services in Denver. Three years later, I went back to college for a degree in social work from Metropolitan State College. The college offered good support services for disabled students, including deaf students. I accessed support services needed for my classes, including note taking and interpreter services. I was later asked by the coordinator of Disability Services at the community college to teach the deaf-blind students some tactile sign language in an effort to enhance their communication with others.

There are three colleges on this campus: Community College of Denver (CCD), Metropolitan State College of Denver (MSCD) and University of Colorado at Denver (UCD). Of the three, Community College at Denver has the largest number of deaf-blind students. At present, there are six students who are deaf-blind, including myself on Aurora campus. One woman takes classes at CCD and MSCD at the same time. Each student has varying needs according to their degree of hearing and sight. I will describe each of these students to demonstrate that deaf-blind persons are unique in their needs with regard to their college education.

Terry is a 40-year old woman and is gradually losing her hearing and sight. This deterioration began about six years ago. She had vision problems in the past but is now coping with her hearing/vision loss. She now attends classes both at Metro and CCD. Since her hearing and her vision have changed, her learning methods have been modified. For example, with the aid of her math tutor, they devised ways to do graphs. Terry also uses a hearing aid and an FM system, and that allows her to communicate with others and on the telephone. She used to use the closed circuit television (CCTV) but now is finding it diffi-

cult to use. She can read large print in addition to braille. At home, she has a computer system, but it took quite a while to get it set up so that she could use it efficiently. She is also learning tactile sign language. Also, she now has a leader dog to guide her around campus and Denver.

Melissa, a 21-year old student at CCD, is a fairly recent high school graduate and communicates orally. She can see light and dark and, due to her residual hearing, she converses orally with hearing people. However, she has to learn tactile sign. She can read braille, move around well with a cane, and is a quick learner.

Charlotte, a woman in her 50s, goes to CCD to improve her skills in English. She is partially blind and uses a cane. She uses a CCTV in order to read print materials. Due to her deafness, she has excellent tactile sign language skills and has no usable speech.

Diana is another deaf-blind woman in her 20s who attends CCD. She is blind in both eyes and has hearing loss in both of her ears. She can converse very well with others in person or on the telephone using the relay service. She can sign very well.

There are two additional deaf-blind students, Maurice and Amanda. They attend CCD. Both of them can speak and hear using hearing aids with or without FM. Maurice knows very little sign language but, on the other hand, Amanda is fairly good with sign language.

As you read about each person, look at their individual needs that require accommodations in order to be successful in a postsecondary environment. At present, there are plenty of interpreters, but it is hard to find qualified people who would be willing to take up the challenge of working with deaf-blind students. There is always a risk that the deaf-blind person will become overly dependent on that person working with them. Some assistance will vary; for example in my case, my needs are minimal as I require notetakers, interpreters and sometimes large print materials. Others need additional assistance such as using tactile sign language, braille, CCTVs, etc.

I again emphasize that each deaf-blind individual has unique needs. By working with support service staff on campus to develop and implement a workable plan for support, deaf-blind individuals can succeed in a college setting.

The Guide for Students who are Deaf-Blind Considering College is an excellent resource and will be extremely helpful for those who work with prospective deaf-blind students, such as school counselors, vocational rehabilitation counselors, and parents. It would help the deaf-blind student view the college experience as a whole in a realistic and thoughtful way.

Summary

While all students who attend college feel that the burden of success or failure rests solely on their shoulders, most students will admit that it can truly be a team approach. Students without vision and hearing loss rely on their family members, friends, classmates, and instructors to succeed. Students who have vision and hearing loss often have a few more members on their team, including disabled student services staff, vocational rehabilitation counselor, readers, O and M instructor, interpreters, and notetakers. In order to self-direct this large team of support, it is necessary to have a handle on one's own needs and accommodations. By using *The Guide*, the student can serve as captain of his/her own team and increase the chances of success at the postsecondary level.

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Inclusion of Students who are Deaf or Hard of Hearing in International Educational Exchange Programs at the Postsecondary Level

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Inclusion of people who are Deaf or hard of hearing in international exchange furthers access to important educational opportunities; promotes diversity, cross-cultural learning and cross-disability perspectives; and increases educational equity for people with disabilities. The following will offer an understanding of the issues, provide valuable resources and discuss how people who are Deaf or hard of hearing can become involved in a variety of international educational experiences.

Mobility International USA (MIUSA) is a nonprofit, US-based organization established in 1981with the mission of empowering people with disabilities around the world through international involvement, promoting cross-cultural understanding, providing leadership, and disability rights as part of diversity training. MIUSA's involvement internationally includes coordinating exchange programs, surveying international development organizations for inclusive practices and providing free resources through the National Clearinghouse on Disability and Exchange (NCDE). The NCDE, managed by MIUSA and sponsored by the Bureau of Educational and Cultural Affairs of the United States Department of State since 1995, educates people with disabilities, resource centers' staff and higher education administrators about international educational opportunities in order to increase the participation of people with disabilities in international programs. NCDE also facilitates partnerships between people with disabilities, disability-related organizations, international exchange organizations and higher education institutions.

An example of a successful partnership project at the postsecondary level is Access Abroad (which was highlighted during the conference session by Wendy Harbour from Disability Services Office at the University of Minnesota). The University of Minnesota's disability office collaborated with its education abroad office to develop models, tools and other resources to enhance study abroad for students with disabilities at the University of Minnesota and Access Abroad's partner, affiliate and overseas higher education institutions. This three-year project, funded by the Fund for the Improvement of Post Secondary Education at the U.S. Department of Education, has resulted in a multimedia online tutorial that can be used by disability service providers, overseas coordinators and international exchange professionals when recruiting, advising and arranging for the successful participation of students with disabilities in study abroad programs. It also includes useful information for students with disabilities interested in or already planning a study abroad experience.

It is important in this ever-changing global society to focus on creating strategies for the successful inclusion of postsecondary students who are Deaf or hard of hearing in international exchange programs. International educational experiences provide a deepened knowledge of and interest in diversity, cross-cultural learning and the cross-disability perspective for all students, including students who are Deaf or hard of hearing. Students with disabilities must have the opportunity to experience the benefits of interna-

tional programs, as do their non-disabled peers. As our world turns to a globalized economy and the job market becomes increasingly competitive, international educational opportunities, such as volunteering, interning, studying, working, living with a homestay, aand teaching or researching abroad provide life-long skills and enhanced employability. Although attitudinal barriers do exist all over the world, it is vital to individual development that people with disabilities have the right to choose to have an international experience.

As students who are Deaf or hard of hearing become increasingly interested in international educational programs, it is the resource center staff and the college and university administrators and faculty who are in key positions to give these students the information and encouragement that they need to successfully pursue international educational opportunities. NCDE publishes (in print, audiovisual, alternative formats or online) several books, captioned videos and tip sheets on rights, options and creative solutions for students with disabilities regarding full participation in international educational programs. By reviewing and sharing these resources, administrators, faculty and staff can assist in preparing students who are Deaf or hard of hearing to make contributions and reap the benefits of international educational opportunities.

If a person who is Deaf or hard of hearing is pursuing a career in which international experience is vital, there are some options to consider for funding. If a person who is Deaf or hard of hearing receives Supplemental Security Income (SSI) benefits and has the opportunity to participate in an international exchange program, he or she should apply to have his or her benefits continue while abroad. There is a little-known SSI provision that allows for the continuation of benefits while participating in a U.S.-sponsored, overseas, accredited program that is not available in the United States and will further one's employment options.

This is an exception to the more well-known "SSI 30-day rule" that does not allow for the continuation of SSI benefits while outside the United States for more than 30 days. The "30-day rule" was amended through legislation introduced by Congressman Peter Stark of California in 1994 as part of the Social Security Independence and Program Improvements Act and became effective January 1, 1995. Even though there are set requirements to qualify, this provision makes it possible for people with disabilities, who financially need to continue their SSI benefits, to gain the international experience they need to increase their employability. Another option available to SSI beneficiaries to proactively plan for international exchange is through the SSI work incentives program. An individual with a disability receiving SSI benefits can apply for a PASS (Plan for Achieving Self-Support). If an international experience is approved by the Vocational Rehabilitation counselor as necessary to meet an individual's career goal, income can be set aside to be used to cover some of the expenses related to participating in the overseas program.

Other questions that need to be answered regarding Deaf and hard of hearing students are how accommodations will be arranged abroad. Sign language varies from country to country, and not all countries have a uniform national sign language. Countries where the people's spoken language is English may have sign languages that are very different from American Sign Language or have accents that are difficult to lip-read. Some students have successfully learned another country's sign language or practiced lip-reading the spoken language by finding international individuals in the United States that use the foreign language. Other students have found it useful to arrive a month early in the host country and locate sign language classes or Deaf clubs where they could learn the language before the exchange program begins. NCDE has contacts with Deaf organizations overseas that may be of assistance in locating sign interpreters abroad. Some universities overseas may have sign interpreter programs and have interpreting services in the native sign language available to their students. It is important to find out the availability and certification of interpreters that may be found overseas.

Other study abroad options may be "island" programs where participants take classes with other U.S. students in the English language while studying the host culture's history, language, and other subjects. Not all programs are classroom-based; there are also internship, independent research, homestay and volunteer options that can provide a different type of

international exchange experience and could be conducted with the Deaf or hard of hearing community in the host country.

To learn about these different program options and the experiences and strategies of past exchange participants who are Deaf or hard of hearing, contact NCDE to inquire about our publications, peer to peer network and our several stories written by Deaf and hard of hearing individuals published in our free *A World Awaits You* journal and on our website.

MIUSA/NCDE is deeply committed to increasing diversity through the inclusion of people with disabilities in international programs. Resource centers' staff, university administrators, and faculty have the chance to empower post secondary students who are Deaf or hard of hearing, through providing information and encouragement, and creating opportunities of which these students can take advantage to experience the cultural diversity that can lead to a desire to explore the world!

For more information on the services and resources mentioned above, please contact:
Mobility International USA The National Clearinghouse on Disability and Exchange
PO Box 10767
Eugene, OR 97440
Tel/TTY: (541) 343-1284 Fax: (541) 343-6812
E-mail: <clearinghouse@miusa.org>
Web-site: <www.miusa.org>

Section IX
Personal Development

Avenues to Literacy: Our Stories, Our Visions

Coordinator:
Barbara Boyd

Panel Moderators:
Beth Peters
Lauren Teruel

Panelists:
Dan Girard
Julie Hochgesang
Erika Leger
Nan Zhou

A Panel Presentation by Students Who Are Deaf or Hard of Hearing From California State University, Northridge

Coordinator: Barbara Boyd, Ph.D.
Panel Moderators:
Lauren Teruel, B.A., English, from Chicago, Illinois, and Beth Peters, B.A.,Liberal Studies, from Pleasanton, California.
Panelists:
Dan Girard, Senior Psychology Major from Boston, Massachusetts; Julie Hochgesang, graduated with a B.A. in English, from Chicago; Erika Leger, freshman Liberal Studies major, from Boston, Massachusetts, and Nan Zhou, graduated with B.A. in Psychology, from China and San Francisco.

Lauren: Our presentation is concerned with literacy. The most simple definition of literacy is the ability to read and write. Today, literacy means far more. Literacy is the ability to read and write so that we have the competency to carry out the complex tasks of the world of work and life outside the classroom.
Beth: Ideas and ideals from past culture define and shape society. Literacy allows us to see and experience the different facets of society through the eyes of myriad persons, allowing us to reshape and redefine society as we know it today. The definition of literacy has broadened to include so many more forms: computer literacy, math literacy, science literacy, art literacy, cultural literacy.
Lauren: Paolo Freire, the Brazilian educator, wrote: "On the basis of the social experience of illiterates, we can conclude that only a literacy that associates the learning of reading and writing with a creative act will exercise the critical comprehension of that experience, and without any illusion of triggering liberation, it will nevertheless contribute to its process." The task of liberation is in the hands of what Freire calls "the oppressed." He further explains that only when the oppressors stop "making pious, sentimental and individualistic gestures and risk an act of love" can the liberation process succeed. Freire's intent is that we must move beyond tokenism; we must hear and we must see the messages of the *true* professionals in our field, the students whom we serve every day.
Beth: Last Wednesday evening during the opening plenary session, Annette Reichmann from the Office of Special Education and Rehabilitation Services in the United States Department of Education was addressing the decline in the number of vocational rehabilitation cases that are closed. Ms. Reichmann posited the theory that one reason for this might be due to the fact that better literacy and math skills are required in work settings, due possibly to the fact that literacy requirements are increasing. Our panel of students from California State University, Northridge, will address literacy; we will discuss the ways in which we have incorporated literacy in our everyday lives, how we initially developed the ability to read and write, how we carried the learning of our elementary and secondary schooling into our college careers.
Beth: Emergent Literacy is always the first crucial stage in learning to read and write. This begins when we are infants, when reading and writing and

vocabulary development start, when parents communicate with their children. This first stage includes – for some of us starting school early and – for others, learning pre-reading tasks in the home. Dan, you went to college long before you went to elementary school! Tell us about your parents' involvement in your preschool education.

Dan: I was in preschool when my parents found out that I was deaf, when I was six months old. They sent me to Emerson College for preschool. After school, when I arrived home, my parents shared stories with me. They had pictures of cookies, for example, and then they showed me the sign for cookie and associated that word with others such as milk. (We were all learning American Sign Language). So, words were drilled into me every day as I developed language and the vocabulary that was appropriate for me at that age. And it was done in a fun way.

Lauren: Erika, you started school at the age of two. Tell us how your mother used dolls to introduce you to literacy.

Erika: When I was very small, I loved dolls. My mother gave me dolls and asked me to create a story about the dolls. Mother would then write my story and ask me to read, voicing and signing the story at the same time.

Beth: Nan, would you give us a brief summary of how you started learning and how you learned your first word?

Nan: I was born in China. My parents are deaf. So of course our native language was Chinese Sign Language at home. I remember in the first grade I was seven years old, and the teacher approached me and showed me a card at the desk where I was sitting. I didn't know exactly what was going on. The teacher then asked me to copy that word. I did, and she said, "Do you know what that word is?" I said, "No." And she then told me, "This is your name." Until then, I had no concept of associating names with their written counterparts. That is how I developed a vocabulary; it was the initial experience in my acquisition of literacy.

Lauren: Julie, you had an older sister with whom you competed. How did that competition influence your motivation to learn?

Julie: Yes, there was sibling rivalry. My sister is five years older than I. She seemed always to get our parents' attention by showing off her ability to read. And I wanted that attention, too. So I worked, and I read things, and when I could understand something, I went to my mother and showed her that I could do as much as my sister. That competition provided me with the motivation. My sister is a brilliant writer now; she was my model for the future.

Beth: Lauren, how did the use of cards and words help you to develop literacy skills?

Lauren: My mother is an artist as well as a professor and is very creative when she teaches. So my mother made these activities for me rather fun. She gave me pictures of my my father, who was typically out of the house. He worked all day long for very long hours. So I was constantly thrilled to see my father when he came home. We would cut out the shape of my father from pictures, and we glued them on very brightly colored cards. Then my mother would ask me: "What is Daddy doing? What's Daddy doing in this picture that's in front of you, Lauren?" I looked at the pictures, and I said, "Daddy is looking," and my mother wrote on the card exactly what I gave her. Then I could make the connection between activities as well as the printed word on the card and the action verbs associated with what my father was doing – talking, looking, and so on.

Beth: I work with children today teaching them to read. It is a constant struggle. But there are so many, many different strategies that can be used. Not only do I develop those strategies, I also share and learn from others. One wonderful strategy that I've learned is to have a parent tells stories to their child, either a published story or one that they create themselves and write. Read the first part of the story, stopping midway or enough to stimulate the child's curiosity. When the child wants to know the end of the story, the parents say, "You read the story… and that is how you find out what happened." So the child then begins to understand that the book is a story and that there is a plot that develops; the story has people. In terms of books and literacy, for the twenty-first century, another activity which fosters the development of literacy skills is engagement, meaning students are actively involved in their learning; they're not just passive readers and learners. Rather they are doing, and they are connecting the print with the activity and making that association.

Lauren: In elementary school, we make the shift to a more involved type of reading. Not only are the parents educators in the home but also the teachers in the elementary school setting. Nan, what's your experience in elementary school?

Nan: Yes, there was a time when we were asked to bring pictures of our families, and I brought a picture of my parents. I learned their names and made the connection between the written name, the signed name, and the person. We had pictures of animals, and we made the same connections. From all these pictures and words we developed and wrote stories that became increasingly complicated. We learned grammatical syntax and identified nouns and verbs. In sum, we learned language. Children are curious by nature. Once we learned to read and write in the classroom, we were more interested in the world around us, and that motivated us to read the print that was in our environment.

Beth: When I was a little girl, I was captivated by books. I wanted to read everything. I was hungry to read. One day my mother saw me looking at the newspaper, and she thought, "That's appropriate; Beth is reading the comic strips or whatever." But I wasn't. I had discovered a statement in the Business Section of the newspaper that had captured my attention. And my mother wondered, "Why is my daughter reading the Business Section?" The headline had something to do with Santa Claus. That was enough to spur my curiosity and get me reading. How cool that I was reading about Santa Claus and had been exposed to the Business Section of the newspaper.

Lauren: That shows what a diligent reader Beth was and is today. And we have a lot of diligent readers on our panel. Erika, tell us about reading and how you became a voracious reader.

Erika: From the age of five, I went to the library near my home every week and got a stack of books. Then I'd sit in the car on the way home from the library, reading. I read all the time. I'd get through that stack of books so quickly we'd have to make another trip to the library. My mother, I guess, got tired of taking me back and forth to the library, but I think she was glad I liked to read so much.

Julie: My mother would also take us to the library every day. And I would be there, thinking, I'm going to read this because my sister has read it. Then I would go on a search of my own; I wanted something that would be to my taste and something new, so I looked in the stacks, and I would gather more and more books, and I thought some of these books were difficult, but I would get my 12 to 20 books and take them up to the librarian. And she would say, "Oh, another 20 books—eh, Julie?" And I would do that every time. Eventually, my mother got a little tired of it. One day, she said to me, "Quit reading! Go play!" I was so disappointed because I wanted to keep on reading.

Lauren: You are a parent's dream child. It's difficult to get a child to read that much, so that's nice. That internal curiosity that children have is a wonderful gift. How do we foster that? How do we encourage it? Do we provide rewards to the child?

Erika: In the third, fourth, and fifth grades, I had the same teacher who gave us excellent lessons. We had to do creative book reports every Friday. Sometimes we created a play and sometimes a written summary or poster. I enjoyed my projects, my book reports. So, every week I looked forward to doing my reports. And of course I'd read three books in that time. So I would always have the longest reports. But I loved it. There was a program called "Book-It!" We read maybe 25 books a month and received a certificate for free pizza. I'd read 25 books a week. Friday was the best day of the week for me because of the book reports and pizza.

Lauren: Tell me about the book you wrote in 4th grade.

Erika: In the 4th grade I wrote a book about dolls, of course, and I drew the pictures, too. It was an illustrated book. Then I went to this big conference and read it aloud to the audience. I loved doing that. That was a validating, motivating, and confidence-building experience for me.

Lauren: Dan, while we're on the subject of school, please tell us about your apples.

Dan: As I said before, after school my parents would help me with language and mathematics. My father is an electrician, and he was into chemistry and so forth. I recall an instance when I had a hard time with math. What he did was get different kinds of fruit, but most of the time it was apples. Then he proposed a question: how many apples are there? I responded, "there are five." Subtract two. So I took away two. He led me through that process that there were now three, then he put the problem into the equation form, "five minus two equals three." He did the same with the addition principle. There were five, and we added three. So then we got more apples and changed the mathematical concepts to dividing and multiplying. And that was my experience with math and fruit, and I thank my father for that.

Lauren: Our student panelists have been sharing positive experiences that have taken place in the home and in the classroom. However, I'm sure we've had experiences that have inhibited us. I went to a very good school. My teachers spoke and signed at the same time. I did not need interpreters. I was very lucky. However, I was required to also take speech therapy on a daily basis. And you might ask, where did I find the time for that? They actually would take me out of my history class and put me into speech therapy. So essentially, from elementary school to junior high school, I didn't take history classes. And to this day, if you were to ask me questions regarding Christopher Columbus, such as when he came to America, I wouldn't be able to answer that for you.

Julie: Your experience was much like mine with speech therapy; I was in a mainstreamed environment and the only deaf person in that setting. The school personnel would put me in speech therapy and take me out of classes; this was a negative experience because I could not stay with my peers. I couldn't be at the same level, having been deprived of the information they were getting. I think it did hinder my progress. On the positive side, though, I found the means to overcome problems.

Beth: Our panelists have their own ways of being involved in their learning. Julie, for example, could go to the library and choose her own books. Dan experienced both visual and tactile learning and visually learning with his apples, a technique that fostered reading, writing, and mathematics literacy. When I was in the 5th grade I remember very clearly how I learned to prepare for tests. We were taught to write out facts, create stories, talk to the computer. At all times, we were given the freedom to choose what we wanted to do. In the 6th grade, Dan learned idioms in a creative fashion.

Dan: My teacher started the week with fun activities. You know how it is the morning of the first day of the week. You come in to class, tired, and you need something energizing. So we would do skits or dramatizations of idioms. Prior to these experiences, I had no exposure with idioms. I remember distinctly one time when "kick the bucket" was the idiom of the week. Up went my hand, and I proudly declared, "I think I know what this means. I'll act it out." So two of my classmates went with me out of the room to plan our strategy for acting it out. Back in the room, my friend laid on the floor, and I kicked him really hard. And I said, "That's what that means." So we had a discussion about it… our perception was to kick the person, and the teacher explained in more depth and with greater precision for us. Since that time, I've been fascinated with idioms.

Beth: Julie, when did you separate the influence from your teachers and take a more active role in your own learning?

Julie: With reading and writing, like I said before, my sister and I were competitors. Everywhere in our house were books—the kitchen, the living room, the bedroom, everywhere. It was fantastic. We moved to a new house with a basement. Books had been left in the basement. I relished this chance to catch up with my sister, finding this cache of books in the basement.

With writing, as I said before, I was mainstreamed and was the only deaf person in the class. And I wasn't all that happy. I didn't think I had enough interaction with the other students. So my escape was in writing. I wrote journals and showed them to my teacher. In his wonderful way, he wrote comments and told me I had excellent ideas. He praised me and gave me feedback. So it was the combination of those things that encouraged my acquisition of literacy skills.

Lauren: I had a similar experience. I had the same teacher for three years. My teacher noticed that I had some issues with grammar and syntax, the word order in sentences. So my teacher decided to start a journal process between the two of us, just the two of us. This process of journal writing became an intimate exchange for us; it was not graded, but the teacher would correct my grammar and give me feedback on my sentence structure. Of course she used a red pen! I told her of my experiences, and she shared hers; I thrilled to know more about her. We did this over a span of two years, and the "blood" on the paper became less and less as this journaling process went on.

Beth: Tell us about the sign on your door, "No little sisters allowed."

Lauren: My older sister, my arch enemy essentially, had a plaque on her door. I didn't understand the message. What it said was, "No Shoes Allowed." And I thought perhaps this was an idiom I wasn't catching. And my sister said, "The real meaning behind this is 'No Little Sisters Allowed.'" And for years I honestly believed her. Sometimes I still think "'No Shoes Allowed' actually means no little sister can be in the room."

Beth: How did your father encourage your learning?

Lauren: My father recognized my interest in books. He gave me an autobiography about a woman living in Mexico, a woman who was trapped there for years and years with her family. She was deaf as well as blind; she did not have a very nice life. And I was captivated by this book. That summer my father told me that we were going to take a family trip to Mexico, to the very southern part of Mexico, to a small town called San Cristobal, which was actually the setting of that book. It was a wonderful connection for me to make in terms of reading and then visiting the city and seeing the places that had been mentioned. This type of learning experience stays with us long after the event has passed.

Lauren: We have talked about junior high school where we begin to develop our own self-assertiveness, getting ready to move into high school. Julie, share with us your experiences in high school writing.

Julie: I focused on liberal arts in high school, where I was in the honors program. I progressed just fine, but I wasn't truly happy. Approaching my teacher, I asked: "What's wrong? I'm not doing so well." And the teacher said, "You're one of the best writers in my class." And I felt angry about that. Why hadn't she ever told me? I would have been more motivated. In my senior year I was in an Advanced Placement class in preparation for college; I had a phenomenal teacher, Mr. Roz, one of the best teachers I ever had. And he had a phenomenal influence on me. We just had that bond. He understood what I wanted and needed. He would challenge me, saying I could do better, and he would say something about a book that would relate to me. And he'd say, "I know you'll like this book." So, I'd go home and read it, and think, "Wow, he was right." So, that was such an inspiration. He was a fantastic, wonderful inspiration. Mr. Roz, wherever you are, thank you!

Lauren: The transition from junior high to high school is always a challenge, but never more so than for Nan. Tell us what it was like moving to America.

Nan: My education up until Junior High was in China. We left China just as I was to start high school and came to the States. In America, everything was brand new. The biggest barrier for me was the English language. I took the standardized test for math and English, and that had to be translated for me because my first language is Chinese. I scored at the 11th grade level for reading in Chinese. So I was going to be placed in the 11th grade. But, instead I was placed in a lower grade because of my English. I was not pleased with this. I had to start all over learning a new language with pictures and vocabulary. I wanted to express myself in my own language. As a high school sophomore, I took English as a Second Language. Again, as Julie said earlier, the teachers really make the difference. They told me to bring my favorite book from home. In class the teacher suggested that if I didn't understand vocabulary, then I should not use the dictionary, just keep reading and take in the big picture and try to figure out the word's meaning from the context. So, I'd do that and after finishing the story, I'd look up the words in the dictionary. And we practiced spelling and writing and reading. I bought a Chinese/English dictionary; that was my true passport.

Lauren: You had the foundation of your native language, Chinese. You could read Chinese, write Chinese. Were there other students in your school at the International Studies Academy who had issues in developing English because they didn't have that native language foundation?

Nan: Yes. My peers were from South America, Central America, and other nations; they had no or little foundation in a first language. Some came to the States with no language at all at the age of 16 or 17. Yes, I do consider myself very fortunate that I was literate in my first language. I built a strong foundation that way. And then I think it was much easier learning a new language.

Lauren: Your parents made the decision to move to America from China to improve your educational opportunities. What influence did they have when you were in high school?

Nan: Yes. In China we had lengthy discussions about what we should do. My family is deaf; we thought about educational opportunities in China. The States seemed to be the best option. I was a self-motivated student. My parents are blue-collar workers, but they were very supportive of me and wanted me to learn English, knowing it was my biggest barrier and that I had to overcome that obstacle in order to attend a university. Again, they supported me in every way as much as they could.

Lauren: Did your parents know English?

Nan: No, not at all. They still do not use English.

Lauren: Dan, please tell us your high school experiences in the Honors Program.

Dan: I started as a high school freshman in a self-contained class with other deaf and hard of hearing students with direct communication. I worked at my grade level. After my sophomore year, I was advised to take Honors English in a mainstream class. I thought, "Oh, my gosh, I don't want to leave my peers, my deaf peers. I don't know if I'm ready." Well, the teachers advised me, "I think you're ready." So I decided to go with that recommendation. My teacher had graduated from Harvard; she brought to our school many of the standards she had experienced in college. It mattered not to her what language we spoke, or whether we were deaf or hearing, or what our native languages were. She started us in writing, and her requirements were far stricter than what I had experienced before. So, I went home and did my best on that first paper. A couple of days later, I got it back – marked with a score of zero. So I went to the teacher and said, "You know, I can't do this. ASL is my native language, and English is my second language, and I'm really upset." The teacher would not accept that. "No, you can do this. You have me, and you have many resources. Take advantage of them." Once again, I went home and wrote my paper again. I went to the English Lab and worked with someone who corrected my paper and explained essay format and the need for an introduction, body and conclusion. I moved up to a B on the paper, and that increased my confidence. I did a lot of that same type of work, analyzing my topic, the structure of the paper, the grammar, that sort of thing. We did that on a weekly basis. This was not an easy time for me. So the third term of my junior year, I got a paper back that I had written twice. Much to my surprise, I got the highest grade in the whole honors class. This continued through the year; I had never worked so hard on English in my life. My teacher saw me during office hours and told me, "I have seen the improvement that you've made over this term." Near the end of the year, I was called to go to the auditorium. I showed up at the auditorium, not knowing what was happening. And my friend said, "You got a letter to receive an award." And I said, "No, I didn't get any letters." So they went on with the awards presentation, and my English teacher went on stage and started to describe one student's success. She mentioned that this student had received a zero at the very beginning of the term. She talked about the student's progress and how he had inspired her, how he'd never given up, and at the end of the class, received the highest grade. That's how I received the Honors English Award my junior year.

Beth: As you can see from our panelists comments, three concepts are important: communication at home, language whether it's oral, sign, PSE, SEE, or Cued Speech, and thirdly high but reasonable expectations. These truly do foster literacy skills. Erika, how did you learn to read and write well enough to succeed in an American University?

Erika: I was really very highly motivated, and I practiced writing and read often. I was in the same school as Daniel; I had the same teachers. Their expectations and demands resulted in my feeling ready for college. I am glad that I did all the work they asked of me, because it paid off in the end.

Beth: Nan, how many languages do you know, and how do those multi-language skills help you achieve in a university setting?

Nan: I know five languages... my native language is Chinese Sign Language which we use at home. Then I know the Chinese language, American Sign Language, English, and now I'm learning Australian Sign Language. I was able to pick up ASL based on my foundation of CSL. I still struggle with English. In my first years at the university, I struggled; my constant companion was my Chinese-English dictionary. By the time I had graduated last year, though, I was pretty fluent.

Lauren: I have a question. In retrospect, what do you wish that high school teachers or even elementary school teachers had done to better prepare you for college?

Nan: I recall during my freshman year at Cal State Northridge, I took freshman English. In this class, I developed the analytical skills; we had to write and then look at a story, read a story, interpret a story, and write stories about my experiences. I wish I could have done that type of analysis in high school.

Lauren: Erika, can you tell us about your experiences in being a TA?

Erika: I am currently a Teaching Assistant for Freshman Composition. I'm helping teach grammar. In high school my teacher made grammar so "un-fun." Now, it's different. I'm learning every day and beginning to appreciate grammar as I work with freshmen students in writing.

Julie: What do I wish I'd learned in high school? I majored in English and graduated with that major, but I wish I'd learned how to critically analyze

literature. To really get into it. And analyze all the features, not just to know the name and the author and simple interpretations, but to really, truly, and critically analyze it. When I got to college, I was expected to do that. I had to write a paper about the significance of a "red tree" in a story we were reading—the symbolism, the possible intrepretations. Having that in high school would have been helpful to me in college.

Lauren: But in Dan's case, he was very lucky. Please tell us why, Dan.

Dan: Yes, I consider myself to be very fortunate. All through high school I had teachers from Harvard and Boston College, and they were demanding. And they told us: "Yes, this is hard; I mean it's hard, yes. But you have to prepare yourself. This is high school; in college, it's harder." So the teachers had that perspective. "It's my job to educate you and prepare you." And they would say, "Trust me; later you will thank me." And now I can say, YES. I mean, I'm not perfect, but the culmination of all these experiences that I have had have really led me to success. I have learned so much, and all experiences build upon the others. So I am very fortunate because my high school teachers were also college professors.

Lauren: I wish that I didn't have to fight for the foreign language requirements. I went to a residential school for the deaf, and they were associated with a local public school. I was able to take classes there. And the teacher there refused to teach me Latin, because they felt that I couldn't learn because I'm deaf. In my last year of high school, I was finally allowed to take a foreign language.

Beth: My experiences in high school were positive. My teachers challenged me to take the AP classes, just like the rest of our panelists. And the teachers didn't let us have any restrictions. We were free to write also. I wrote so much I didn't have to focus much on the grammar, whether it was all right or not. I had writing and immediate feedback, and it was critical for me. The fact that it was AP English challenged me and prepared me for college.

Lauren: Let me now ask the panelists what being a deaf or hard of hearing college student means to you?

Dan: What being a deaf college student means to me is independence and responsibility and proceeding on my own. In high school I had parents there to constantly remind me, "Do your homework." When I went to college, it was up to me to prepare for the real world. And I am thankful for all my experiences growing up which have made me what I am today. I'm facing the real world.

Erika: In high school, my parents really had to fight for me to get services such as interpreting. In college, I fight those battles. My parents are 3,000 miles away and I can't call and say, "Mom, I have problems. Come and solve them for me." So I'm becoming more independent and taking responsibility for myself.

Nan: I would say the college experience for deaf and hard of hearing students has been very important to me. In China people think deaf people are incapable of going to college. By moving to America, learning a new language, and graduating from college, I have proven something that continues to be a myth in China. And so that is a tremendous accomplishment for me.

Julie: I have to explain again the influence my older sister had on me. We have that life-long competitiveness. When I graduated from college my sister said, "I guess we're in the same boat now." And I thought, "Finally!" I have reached that pinnacle, being at the same level as my sister.

Beth: Not only are you a successful graduate of CSUN, Julie, you now are teaching English at Cal State Northridge. What do you see as the greatest determinant of success as a writer at CSUN?

Julie: I teach Developmental Writing to eight students. They have some natural skills and can hold their own in most areas of the university experience. They're extremely motivated to question and investigate whatever I assign. It's a phenomenal experience, and they've just improved so much. And that's what teachers like to see, students who are thrilled and motivated. We work on their writing skills, and practice helps; but, motivation is the key. These students have become better writers as a result of their motivation.

Lauren: Before we close, I want to pose one more question to our panelists. What is your favorite book, the best book you've ever read, regardless of the age you read it?

Julie: Mr. Roz was my teacher. He showed me the book, *The Stranger*, by Albert Camus. I read it and it was phenomenal. A wonderful book for me, *The Stranger*.

Nan: *Anna Karenina* by Tolstoy. I remember my aunt watching the movie on television, where a woman was hit by a train, and I remember seeing this on television and wondering, "What's going on?" Then I read the novel and made the connections.

Erika: I have two favorites—one is *Catcher in the Rye* by J. D. Salinger and my second favorite is *Wuthering Heights* by Emily Brontë.

Dan: I had two favorites, also. Both were from high school—*Rebecca*, and then *The Great Gatsby*. My teachers assigned us wonderful novels; they inspired motivation by asking us to act out chapters and envision events. Those were my two favorites.

Beth: You read my mind... that's my favorite as well, *The Great Gatsby*. To this day I remember the exquisite details of the novel.

Lauren: My all time favorite book from a long list, the one that comes to mind right now, is *Johnny Got His Gun* by Dalton Trumbo. I just made an instant connection with that book. It allowed me to see war through another person's eyes; I became more sensitive to other cultures. I had the opportunity to form a vision and get an idea of who I am and how I fit into today's society and what that means for me individually.

Beth: From the stories we have shared today, we recognize again that what's important in success is more than just language used It's parental involvement and the fact that communication does take place in the home. It's an ambitious school program that wants students to be challenged and plans lessons and activities that facilitate learning. It's the belief that deaf students can and will succeed.

Lauren: We began this discussion by citing the work of Pablo Freire, and I will conclude with another of his basic beliefs that when people speak their own true words, they engage in dialogue capable of transforming and humanizing the world. Freire wrote that "faith in people is an *a priori* requirement for dialogue, and trust is established by dialogue." It has been our privilege to dialogue with you, and it is our fervent hope that you will now take the task further and initiate dialogue among yourselves and with us, as we all strive together to create "Avenues to Literacy" everywhere for students who are deaf or hard of hearing.

The Eugene and Inez Petersen Collection

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Abstract

During the mid-1980s, a Deaf couple, Gene and Inez Petersen, set out to document the life stories of ordinary and extraordinary Deaf Americans. Traveling across the country, they videotaped interviews with over 150 people. Inez spent hours transcribing the videotapes. Completed transcripts were then sent to those interviewed for review, and approximately 50 were selected for inclusion in the final collection. Gene's manuscript presented Deaf Americans from all walks of life—old and young, men and women, blue collar and professionals—who talked about their educational, social and vocational experiences, and opinions and philosophies. The stories recount the richness and diversity in the Deaf community over the last eight decades. But the manuscript was not published before the Petersens were killed in an automobile accident.

In 1999, with approval from the Petersen family and the original interviewees, the author created the Gene and Inez Petersen Collection Web site at <www.rit.edu/~glk9638/history.htm>.

In the early 1980s, a deaf couple, Eugene and Inez Petersen, began a face-to-face interview project that would take them around the country, visiting with deaf Americans in their homes recording their life stories. The interviews were conceived as a way to introduce deaf adults to hearing people, parents of deaf children, and young deaf adults who have had little or no contact with adult deaf role models or to the world of deaf Americans. An attempt was made to get to know these deaf interviewees by listening as they talked about their educational, social and vocational experiences, opinions, and philosophies. The interviews revealed the ordinariness of the lives and experiences of deaf people, but also portrayed the extraordinariness of people who had succeeded in compensating for a severe disability. These interviews were also conducted primarily in American Sign Language (ASL) by people who were deaf and accepted as being members of the Deaf community in America, although the majority of people interviewed were bilingual, responding in both ASL and Pidgin Signed English (PSE).

The approximately 150 interviews were videotaped, then laboriously transcribed by Inez Petersen—who would watch signed portions of the videotapes, then type phrases or sentences in English on a manual typewriter. Eugene Petersen then checked the transcripts for accuracy in capturing the flavor and informational content of the interviews as well as the translation to English. The transcriptions were shortened to 5-15 pages, double-spaced, and returned to the interviewees to check for accuracy. Approximately 50 of the 150 edited life stories were returned to the Petersens; the remaining 100 drafts were not returned, despite follow-up TTY calls and letters. Eugene Petersen ascribed this lack of response to what he called the "old nemesis of prelingually deaf people: Their reading comprehension. They were uncertain if they fully understood their own stories and [were] too proud to ask for help." The remaining 50 life stories were gathered for publication as *You Deaf? Visits with Deaf Americans*, but were not published before the Petersens were killed in an automobile accident in 1989.

A colleague of Eugene Petersen, Susan Foster, who had been given a review copy of Petersen's manuscript in the late 1980s, reopened the issue of publication of the life stories in 1998. After consultation with Gail Kovalik, PI on this project, the decision was made to "publish" the life stories in a relatively new medium, the World Wide Web. Attempts were made to contact each of those 50

interviewees to obtain their permission to post their life stories on the Web, to obtain updates or epilogues to their life stories, and to obtain photographs of these individuals. In short, we wanted to make these full-text stories come to life in a way that would be more visually pleasing and interesting to people who have become accustomed to the capabilities of the Internet and the WWW. Plans included placing videoclips of the original interviews on this Web site, storing the original videotapes in an archive when found. (To date, 6/30/00, only one original videotaped interview has been located. A videoclip of Barbara Hinrich's life story, which relates how she became deaf, is on the WWW at <www.rit.edu/~glk9638/history/hinrichs.htm>; click on the link under the photo at the top of this page.)

Concomitantly, we attempted to contact Eugene Petersen's children in an effort to track down the original videotaped interviews, transcripts, permission forms, and any other materials related to Eugene's original work. We also contacted several individuals at Gallaudet University, where Eugene had been named to the 1985-86 Powrie V. Doctor Chair of Deaf Studies to complete work on this project, thinking that the library or Archives might have copies of the videotapes. This took several months, and we finally learned from one of the Petersen children that all of these original materials had been lost in the intervening years since the Petersens died. Gallaudet University did not have copies of any of these materials either. Thus, the only material remaining from this important project was Eugene Petersen's edited manuscript.

Robert Davila, one of the original interviewee, and now the first deaf Vice President for NTID at Rochester Institute of Technology, helped us find addresses for approximately 35 of these 50 people. Some of those individuals led us to others on the list. We wrote letters, requested new permissions to make the edited interview materials available, asked for photographs, and asked the individuals to write epilogues to their life stories. Several people jumped at the chance to participate fully in this project. Others were reluctant to write epilogues but gave permission to post the old life story and sent photographs. Still others did not respond to our original and follow-up letters.

In 1999, Kovalik obtained a ten-week 50% professional development leave at NTID to develop a Web site based on the available Petersen interview materials. This leave included workshops in Dreamweaver, a Web page software package, as well as consultation with individuals at NTID skilled in Web development. The life stories were typed into Dreamweaver but not uploaded to the WWW until we received new permissions from the original interviewees. Any materials that they sent to us at this time (photographs and updates on their lives) were also added to their Web pages. Photographs were cropped and enhanced in Adobe Photoshop 5.0 and uploaded to the individual Web pages. Epilogues and additional materials were added to the site, which is still under development. Eventually, 19 life stories, several epilogues and innumerable photographs were added to the Eugene and Inez Petersen Collection Web site, which can be found at <http://www.rit.edu/~glk9638/history.htm>.

Communication continues with several Petersen interviewees who appeared genuinely thrilled that their stories were finally coming to "life" on the WWW. One, David Bloch, a deaf Holocaust survivor, has subsequently donated some of his artwork to NTID (copies are posted on his Web page at <http://www.rit.edu/~glk9638/history/bloch-epilogue.htm>). Another, Edna Adler (now deceased), who had been a deaf consultant to the Deaf and Hard of Hearing, Deafness and Communicative Disorders Office, Social Rehabilitation Services, Department of Health and Human Services, wrote: "The reemergence of the Gene and Inez Petersen Collection seems just too incredible to believe. NTID is to be thanked profusely and complimented for assuming the responsibility of preserving the collection." A third, Barbara Hinrichs, participated in the Poster Session about the Petersen Collection at PEPNet 2000. Through this conference, we made contact with the daughter of Leo Jacobs and with another of the original interviewees. These two life stories will soon be added to the Petersen Collection Web site.

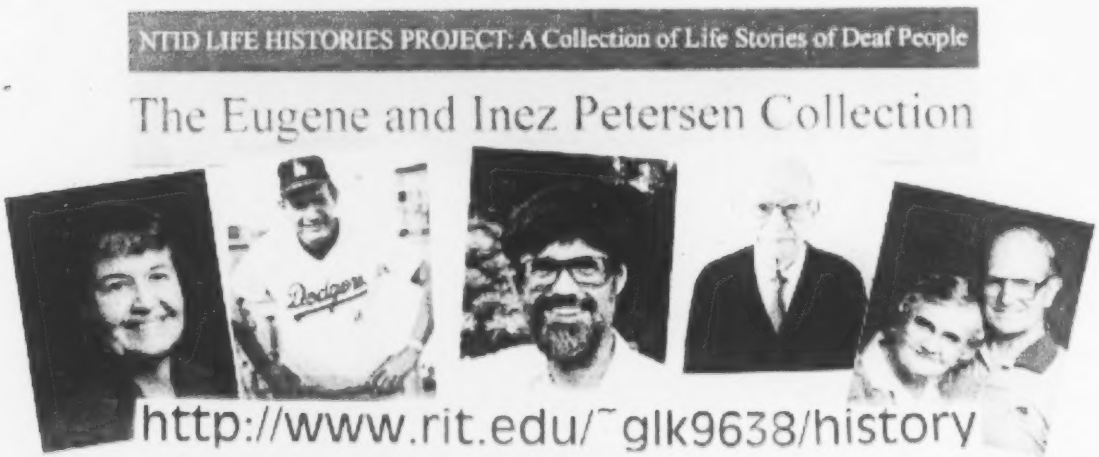
In March, 2000, contact was made with Gary Petersen, Gene Petersen and Lorraine Petersen White, three of Eugene's children. Gary spearheaded a family effort to develop a life story for his father and Inez, and these materials and photographs were added to the Gene and Inez Petersen Collection Web site at <http://www.rit.edu/~glk9638/history/petersens.htm>. On June 19, 2000, Gene

Petersen, Eugene's son, wrote a perspective on the Petersens' work, which is linked to the Petersen Web page. The Petersen Collection is still very much a "work in progress."

There are several people who have not yet given their permission to have their life stories included in the Petersen Collection. If you know any of the following individuals, please contact them and encourage them to get in touch with Gail Kovalik at the National Technical Institute for the Deaf in Rochester, NY (e-mail <glk9638@rit.edu>).

Janice Adams
Glenn Anderson
Daryl and Jill Argrave
Jack Bertram
Barbara Babbini Brasel
Nancy Jo Brown (Deller)
Howard Busby
Alex Ewan
Jack and Rosalyn Gannon
Thomas and Barbara Gant
Phyllis and Nelson Gehman
Harvey and Anna Gremillion
Jeffrey Hoffer
Ellie Jergensen
Joseph and Noreen Jezerski
Roy and Wanda Kirby
Claude Moore
Gerald Nygren
Everardo and Emma Padilla
Marie Jean Philip
Eldon and Donna Ragland
Gregory and Rose Maria Rathbun
William and Nikki Simpson
Tommy Walker
Bruce Weir
Sterling White
Colleen Wilkins
Janelle Yoder (Hartman)
Chris Zagorewicz

In July, 2000, the author submitted a grant proposal, *Life Histories of Deaf Americans*, to the National Endowment for the Humanities. Additional funding will allow us to expand the project begun 15 years ago by Gene Petersen.


NTID LIFE HISTORIES PROJECT: A Collection of Life Stories of Deaf People
The Eugene and Inez Petersen Collection
http://www.rit.edu/~glk9638/history

Career Attainments of Deaf and Hard of Hearing Alumni Fifteen Years After College

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Abstract

This article reports on the results from a national longitudinal survey of 240 graduates with hearing loss from 47 colleges with support service programs. The overall findings demonstrate an economic pay-off from the postsecondary training of these alumni. Most respondents had made long-term gains in their educational, occupational, and economic attainments. A majority were satisfied with their supervisors, prospects for promotions, and careers. However, between 1988 and 1998 males made more consistent gains in earnings than females. The implications of these findings are presented for secondary professionals, vocational rehabilitation counselors, and postsecondary service providers.

There were an estimated 258,000 students with hearing loss enrolled at the nation's 5,000 colleges and universities in 1989-1990 (USDED, 1993). Watson and Schroedel (2000) calculated that 197,000 of these students were hard of hearing, 52,000 deafened at or after age 19, and 9,000 deafened before age 19. In contrast to the *one-time* provision of accommodations, such as, curb cuts or wider doorways for students with physical disabilities, accommodating students with hearing loss, especially those who are deaf, requires *on-going* support services, special methods of instruction, smaller class sizes, and specialized communication devices. These expensive on-going accommodations place a hardship on many institutions of higher education. This is particularly acute when most states currently face reduced revenues after a decade of spending increases, tax cuts, and depletion of surplus funds (Wolf, 2000).

In response to external constituencies such as governments, parents, alumni, and other donors, colleges and universities conduct surveys of their graduates to establish the benefits of higher education. Administrators, faculty, and support staff use the results of these surveys to modify instructional curricula, career-preparation programs, and on-campus services. Various colleges serving deaf and hard of hearing students have surveyed their graduates (e.g., MacLeod-Gallinger, 1998; Olson, 1991; Rawlings, King, Skilton, and Rose, 1993; Thompson and Lucas, 1981). However, differences in the kinds of college attended significantly influence the level of acquired degree, type of occupation, and earnings of alumni (Crammatte, 1987; Schroedel and Watson, 1991). Only a few researchers have simultaneously evaluated the attainments of deaf and hard of hearing graduates from multiple colleges and universities (Crammatte, 1987; Quigley, Jenne, and Phillips, 1968; Schroedel and Watson, 1991).

Another drawback from all of these studies is that they have gathered information from one point in time from respondents. Thus, time confounds comparisons between the results of surveys done at different points in time with different participants. Longitudinal surveys overcome

many of the limitations of one-time studies. By repeated contact with one group over time, such surveys can assess progress in the *careers* of alumni and identify explicit factors contributing to long-term socio-economic attainments.

Methods

Survey participants were deaf and hard of hearing graduates in the classes of 1983, 1984, and 1985 from 47 institutions of higher education in 23 states. All of these colleges provided special support services and had 15 or more deaf or hard of hearing students enrolled each year during 1984 and 1985. They were selected from a national directory prepared by Rawlings, Karchmer, and DeCaro (1983). First contacted by mail in 1985, these alumni were further surveyed in 1989, 1994, and 1999. In preparation for the 1999 survey, 311 of the 400 (76%) respondents in the 1994 survey were successfully traced and 240 of these 311 alumni (77%) returned questionnaires after three contacts by mail and one by TDD. Although tracing and survey response rates were reasonably high for all surveys, the number of respondents decreased from 490 in 1989 to 240 in 1999. Some analyses, comparing changes between 1989 and 1999 in the socioeconomic attainments of alumni, were limited to only respondents who participated in all surveys during 1989, 1994, and 1999. Other analyses focused on respondents' accomplishments in 1999.

Respondents

The 1999 sample contained 240 respondents who resided in 39 states at that time. Their average age was 38 and 53% were female. Ninety-three percent were white and 7% were from ethnic minority backgrounds. The under-representation of the latter alumni reflected their chronic under-participation in postsecondary education (Schroedel and Watson,1991). Seventy-one percent identified themselves as deaf and 29% as hard of hearing. Recalling that the alumni in this study graduated from colleges that provided *programmatic* support services, the hard of hearing graduates were probably not typical of hard of hearing alumni from regular colleges and universities. The distribution of completed degrees among alumni during 1999 was: vocational degrees (28%), associates degrees (24%), bachelors degrees (32%), masters degrees (15and), and a doctorate (1%).

Results

Labor force participation: Eighty-five percent of 1999 survey respondents were in the work force in contrast to 90% of college graduates without disabilities (Hale, Hayghe, and McNeil, 1998). Among the former, 5% were unemployed compared to 2.5% of associates degree recipients and 1.9% of bachelors degree recipients among workers without disabilities (U.S. Bureau of Labor Statistics, 1999).

Underemployment: An underemployed person is one whose abilities or educational credentials are higher than those usually required for the job in which he or she presently works (Clogg, 1979). Using a definition of underemployment based upon level of completed degree (see Schroedel and Geyer, in press), it was determined that 13% of alumni were underemployed in 1994 and 15% in 1999. Comparatively, 27% of the non-disabled workforce with completed college degrees were similarly underemployed (Survey of Income and Program Participation, 1993). Among deaf and hard of hearing college alumni, those most at risk to underemployment had vocational degrees. Furthermore, there are reasons to believe that proportionately more vocationally successful alumni with hearing loss participated in the survey than their less vocationally successful peers. This factor probably deflated the rates for underemployment and unemployment found in this sample and restricts comparisons to samples of college-educated workers without disabilities.

Occupational attainments: Most respondents in 1999 were well established in their jobs: their average tenure on their current job was between 4-5 years and 24% had the same job for nine-plus years. The 195 employed alumni in 1999 worked in a wide range of 70 different occupations. Overall, there was much less occupational clustering, a factor which limits upward career mobility, than reported in studies of deaf workers without a college education (Barnartt, 1985; Terzian and Saari, 1982). These results imply that access to broader career training options expands employment opportunities and subsequently reduces occupational segregation.

Trends in educational and occupational attainments: Between 1983-85 and 1999 the percentage of alumni completing masters degrees increased from 5% to 16% and the proportion with vocational and associates degrees decreased from 62% to 52%. The percentage with bachelors degrees remained stable during the same period (32% to 33%). Furthermore, there was an increase in the proportion of alumni working in professional, managerial, and technical occupations from 49% in 1989 to 56% in 1999. However, in 1999 there was a larger percentage of males over females in these occupations (61% vs. 52%). This reversed a trend since 1985 in which females in this sample predominated in these occupations (El-Khiami, 1993; Schroedel, Geyer, and Mc Gee,1996; Schroedel and Watson, 1991).

Economic attainments: The annual 1998 earnings of alumni were strongly influenced by the level of the degree they completed: vocational degrees ($15,000-$19,999), associate's degrees ($25,000-$29,999), bachelor's degrees ($20,000-$24,999), and master's or doctorate degrees ($35,000-$39,999). However, these alumni at all degree levels earned less than college graduates who hear: associate's degrees ($31,700), bachelor's degrees ($40,100), and master's degrees ($50,000) (U.S. Bureau of Labor Statistics, 1999).

Why did deaf and hard of hearing recipients with associate's degrees earn more than their peers with bachelor's degrees? Although there was not any significant difference in the proportion of males and females among these degree recipients, gender did influence this disparity in earnings. This discrepancy is primarily rooted in the long-term effects of gender patterns in choice of college majors (Fisher, Harlow, and Moores, 1974; MacLeod-Gallinger, 1992; Schroedel, 1986; Schroedel and Watson, 1991). In short, deaf males are much more likely than their female counterparts to be trained in the crafts, technical, and scientific fields which lead to higher-paying jobs. Furthermore, disproportionately more males over females obtained vocational and associate's degrees (Schroedel, et al., 1996; Schroedel and Watson, 1991).

Over time males made more consistent and larger gains in income than their female counterparts. Whereas men increased their earnings from $10,000-$19,999 in 1988 to $30,000-$39,999 in 1998, the earnings of women increased from $10,000-$19,999 to $20,000-29,999 during the same time span. The 30% gap in earnings favoring deaf males over deaf females has been documented since the 1960s and persists into the 1990s (Schroedel, et al., 1996). This pattern continues despite the fact that these females were more likely to acquire higher degrees than their male peers.

Other career attainments: Most respondents had positive attitudes towards their supervisors and prospects for promotions and their careers. Forty-five percent of alumni had obtained promotions since 1994, and those who were more frequently promoted had more favorable attitudes towards their prospects for promotion. A supportive supervisor is a pivotal factor in gaining promotions and workplace accommodations (Mowry and Anderson, 1993; Schroedel, Mowry and Anderson, 1994).On the downside, 25% reported that their college training was not helpful to their careers.

Conclusions

Although the deaf and hard of hearing alumni in this survey earned less and experienced more unemployment than their similarly educated peers who hear, this study provided evidence of the economic advantages of postsecondary training. A majority of respondents were well established in a wide range of jobs and were satisfied with their careers and prospects for promotions. A near majority had been promoted during the past five years and there was an increase in the proportion with masters degrees leading to better-paying jobs.

Implications

Among areas identified by this survey, the following two topics especially need attention from secondary, rehabilitation, and postsecondary professionals.

Enrich the career potential of females. It is important for professionals to intervene early to increase the prospects that deaf and hard of hearing females will enter into better-paying careers that will help reduce the long standing disparity in earnings with their male counterparts. As a first step, career educators need to change the traditional gender stereotypes that many of these females have about jobs. These stereotypes begin in junior high school and persist into college (Kolvitz and Ouellette, 1980; Kovelchuk and Egelston, 1976). In addition, school

teachers should encourage eligible females to enroll in advanced computer, mathematics, and science courses. School and rehabilitation counselors can advise these young women to select appropriate technical and scientific college majors. Rehabilitation counselors should contact these students and their parents as early as the ninth grade. Clarifying parents' educational and occupational expectations for their deaf adolescents is particularly important (Schroedel and Carnahan, 1991). Moreover, postsecondary and rehabilitation professionals should co-monitor students who change their fields of training.

Strengthen career goals. Providing career counseling is important to reduce the probabilities that deaf and hard of hearing graduates will experience underemployment and unemployment. One study found that deaf high school seniors more motivated about their vocational goal were more motivated, ready, and likely to complete postsecondary training than those unmotivated about their career goal (Schroedel, 1991). Considering that 75% of deaf students quit college, it is important that these students have clear vocational goals (Stinson and Walter, 1997).

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